MYTH AND THOUGHT AMONG THE GREEKS

The distinguished French anthropologist Jean-Pierre Vernant has devoted many years to the field of Greek studies from the point of view of historical psychology. In this collection of his early essays, he applies structuralist ideas to Greek culture and myth, and uses new approaches in the study of Greek work and technology.

His main purpose is to discover what the ancient Greek personality was, and how it differed from personality as we know it today, tracing transformations in mental processes, techniques and logical procedures. He presents a structuralist analysis of Hesiod's myth of the races, then goes on to examine the mythical aspects of memory and time. He examines in detail the organization of space and the development of the conception of space in ancient Greek times. Work and technological thought are discussed in an important section of the book, which also covers the psychological category of the double, personal identity and religion, and the progression from mythical to rational thought.

These essays represent a pioneering approach to Greek studies, with their emphasis on historical psychology and structuralism as modes of inquiry. They highlight the psychological changes which resulted from the Greek experience and illuminate the turning point which this experience marks in the history of the inner being.

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Myth and Thought among the Greeks

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Jean Pierre Vernant

Routledge & Kegan Paul
London, Boston, Melbourne and Henley

First published in French in 1965 as
Mythe et pensee chez les Grecs
First published in English in 1983
by Routledge & Kegan Paul Ltd
39 Store Street, London WC1E 7DD,
9 Park Street, Boston, Mass. 02108, USA,
296 Beaconsfield Parade, Middle Park,
Melbourne, 3206, Australia, and
Broadway House, Newtown Road,
Henley-on-Thames, Oxon, RG9 1EN
Printed in Great Britain by
T.J. Press (Padstow) Ltd, Padstow, Cornwall
©Librairie Francois Maspero, Paris, 1965
This translation © Routledge & Kegan Paul 1983
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Library of Congress Cataloging in Publication Data

Vernant, Jean Pierre.

Myth and thought among the Greeks.
Translation of: Mythe et pensée chez les Grecs.
Includes index.
1. Philosophy, Ancient--Addresses, essays, lectures.
2. Mythology, Greek--Addresses, essays, lectures.
I. Title.
B178.V413 1983 180 82-25016
ISBN 0-7100-9544-9

To I. Meyerson

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Introduction

We have chosen to collect these studies in a single volume - even though their subjects may appear to be rather different - since we conceived of them as parts of the same inquiry. For ten years we have attempted to apply to the field of Greek studies the methods in historical psychology that I. Meyerson has initiated in France. (1) The subject matter for our investigation is material which has been worked on by specialists - scholars of both Greek and ancient history. However, we shall be considering it from a different point of view. Our material includes religion, with its myths, rituals, and illustrated representations; philosophy; science; art; social institutions; and technical or economic data. But whatever we are dealing with we shall consider it as having been created by the human mind, as the expression of organized mental activity. By studying these phenomena, we shall seek to understand the individual, in Ancient Greece, a being inseparable from the social and cultural environment of which he is at once the creator and the product.

The task is difficult because it is necessarily indirect in character, and it runs the risk of being unfavourably received. In dealing with the evidence, the texts, the archeological data, the realities which we too must use, the specialists are all faced with special problems for which they must use special techniques. In most cases the study of the individual and his psychological functions appears to them to be foreign to their own particular fields. The psychologists and sociologists, on the other hand, are too involved in the contemporary world to be interested in a study of classical antiquity, and so they abandon this to what they take to be the somewhat outdated curiosity of the humanists.

And yet, if there is a history of the inner being, to complement the history of civilizations, we must again

adopt the shibboleth first advanced a few years ago by Z. Barbu in his 'Problems of Historical Psychology': 'Back to the Greeks.' (2) If we approach the matter from the point of view of historical psychology there seem to us to be several reasons why a return to the Greeks is unavoidable. The first is of a practical nature. Documentation of life in Ancient Greece is more extensive, more varied, and has been more thoroughly researched than the evidence for any other civilization. There is at our disposal a large number of substantial and detailed original works relating to the social and political history, the religion, art, and thought of Ancient Greece. To this practical advantage can be added more fundamental reasons. The writings which have come to us from Ancient Greek civilization embody ideas sufficiently different from those expressed in the framework of our own intellectual universe to make us feel, not only a historical distance, but also an awareness of a fundamental change in man. At the same time, these ideas are not as alien to us as are some others. They have come down to us through an uninterrupted process of transmission. They live on in cultural traditions to which we constantly refer. The Greeks are sufficiently distant for us to be able to study them as an external subject, quite separate from ourselves, to which the psychological categories of today cannot be applied with any precision. And yet they are sufficiently close for us to be able to communicate with them without too much difficulty. We can understand the language used in their writings, and reach beyond the literary and other documents to their mental processes, their patterns of thought and feeling, their system of relations between will and action - in sum, to the structure of the Greek mind.

There is one final reason why the historian of the inner being should turn to classical antiquity. Within the span of a few centuries Greece underwent decisive changes both in its social and its mental life. The city was born, and, with it, law. Among the first philosophers there was the emergence of rational thought and the progressive organization of knowledge into a body of clearly differentiated disciplines - ontology, mathematics, logic, natural sciences, medicine, ethics, and politics. New forms of art were created, and different modes of expression were invented in response to the need to validate hitherto unknown aspects of human experience: these were lyric poetry and tragedy in literature, and in the plastic arts, sculpture and painting, seen as having an imitative function.

These innovations in so many different fields indicate

a change in mentality so marked that it has been seen as the birth of 'western man', a true flowering of mind and spirit in every sense of the term. These transformations relate not only to progress made in intellectual matters or the techniques of reasoning. From the *homo religiosus* of the archaic cultures to this political, reasoning individual (referred to in Aristotle's definitions, for example), the transformations affect the entire framework of thought and the whole gamut of psychological functions: the modes of symbolic expression, and the manipulation of signs, ideas of time and space, causality, memory, imagination, the organization of action, will, and personality - all these categories of the mind undergo a fundamental change in terms both of their internal structure and their interrelationships.

Two themes in particular have fascinated Greek scholars during the last 50 years. These are the progression from mythical to rational thought; and the gradual development of the idea of the individual. These two questions have not been accorded an equal amount of space. The first is the subject of a general study, whereas in dealing with the second we have concentrated on one particular aspect. We feel, however, that in order to avoid misunderstandings we should attempt to explain our position with regard to each of these two problems. The title of the last study in this book is 'From Myth to Reason'. However, by this we do not claim to be considering mythical thought in general, any more than we admit to the existence of rational thought in an immutable form. On the contrary, in our closing remarks, we emphasize that the Greeks did not invent reason as such, but a type of rationality dependent on a historical context and different from that of today. Similarly, we believe that in what is known as mythical thought there are diverse forms, multiple levels and different modes of organization, and types of logic.

Where Greece is concerned intellectual evolution appears to have followed two main lines of development between the time of Hesiod and that of Aristotle. First, a clear distinction was made between the world of nature, the human world, and the world of supernatural powers. Distinctions between these tend to become blurred or intermingled by the mythical imagination which sometimes confuses the different areas, sometimes operates by slipping over from one plane to another, and sometimes establishes a network of systematic correspondences among all these aspects of reality. On the other hand, 'rational' thought tends to ignore the ambivalent or extreme notions which play so important a part in myth. Rational thought avoids the use of associations by means of contrast, and

does not couple and unite opposites or proceed by overturning a succession of theories. On the principle of non-contradiction and unanimity, it condemns all modes of reasoning which proceed from an ambiguous or equivocal basis.

Stated thus generally, our conclusions are of a provisional nature, aimed above all at outlining a pattern of inquiry. They make use of more restricted and more precise studies focusing upon a particular myth recounted by a particular author, or upon a particular body of myth having variants in different Greek traditions. The only way to trace the transformations in the mental processes, techniques, and logical procedure is to undertake concrete studies to determine just how the vocabulary, syntax, modes of composition, and the choice and organization of themes evolved from Hesiod and Pherecydes through to the Presocratic philosophers. Thus the last study in this book should be read with reference to the first. We have carried the structural analysis of a particular myth, Hesiod's myth of the races, as far as we can, in order to describe a manner of thought which is anything but incoherent, but whose movement, rigour, and logic have their own particular character; the structure of the myth depends, both for its overall plan and for the details in its various parts, upon the balance and the tension between the poles of ideas. Within the context of the myth these ideas express the polarity of the divine powers which are at the same time set in opposition and associated. Thus in Hesiod's work we find a 'model' of thought which is in many respects close to the one which, as expressed in the couple of Hestia and Hermes, seems to us to dominate the earliest Greek religious experience of space and movement.

It may seem surprising that we have not given a larger place in this collection of studies to the analysis of the individual. This is indeed the one area where Greek scholars have been led by the very nature of their investigations to touch on psychological problems. The transformations in the individual from Homer to the classical period seem quite startling, for Homeric man had no real unity and no psychological depth; but was subject to sudden impulses and inspirations which were thought to be of a divine origin. The Homeric individual was, in a sense, alienated both from himself and from his action. Then, however, man began to discover the inner being; the body was seen as something distinct, psychological impulses were treated as a whole, and the individual emerged (or at least certain values linked with the individual as such). The sense of responsibility developed; the agent

was seen as more answerable for his own actions. All these developments in the individual have been the subject of specialists' inquiries and discussions that have a direct bearing upon historical psychology.

We have not sought to make an overall assessment of these studies partly, but not solely, because one psychologist has already attempted to do this. Barbu has studied what he terms The Emergence of Personality in the Greek World (3) from a point of view similar to our own. While we fully accept many of his analyses and would advise the reader to consult them, we are inclined to express reservations of two kinds with regard to his conclusions. First, it seems to us that the author rather forces the issue in the picture that he paints of the development of the individual. Because he has not taken account of all the different kinds of evidence and particularly because he has not studied them closely enough he sometimes imposes upon them too modern an interpretation and projects onto the Greek personality certain features which, in our opinion, did not emerge until a later period. Second, although his study is undertaken from an historical point of view, it is not entirely free from normative preoccupations. Barbu's view is that the Greeks discovered the *true* individual. By basing their inner being upon a balance maintained between two opposed psychic processes - on the one hand of 'individuation' which integrates the internal forces of the individual around a single centre, and on the other hand one of 'rationalization' which integrates individuals into a higher form of order (be it social, cosmic, or religious) - they constructed a perfect form or model for the individual. Quite apart from specific objections we have to points of psychology in this, we do find that the work of certain Greek scholars has a tendency to underestimate not only the complexity of a psychological category such as the individual, with all its many dimensions, but also its historical relativism. They consider the individual as a category whose development is now complete, which can be defined in simple and general terms, and so they sometimes tend to pursue their inquiries as though the question were one of finding out whether or not the Greeks were aware of the individual or at what moment they discovered it. For the historical psychologist the problem should not be posed in these terms. There is not, and there cannot be, a perfect model of the individual, abstracted from the course of the history of mankind with all its vicissitudes and all its variations and transformations according to place and time. (4)

The purpose of the inquiry, then, is not to establish

whether or not the individual personality existed in ancient Greece, but to seek to discover what the ancient Greek personality was, and how its various characteristics differed from personality as we know it today. Which of its aspects become defined, in greater or lesser detail, at particular moments, and what form do they take? Which aspects remain ignored? Which features of identity already find expression in particular types of works, institutions, and human activities, and to what degree? Along what lines and in what directions did the Greeks develop the concept of personality? What groping or abortive attempts were made to grasp it? What blind alleys were followed? And, finally, how far is personality organized? What is its core? What are its most characteristic features?

An inquiry of this kind presupposes that a scholar should first have isolated from the body of evidence that Greek civilization offers us the facts that are especially relevant to one or another aspect of personality. The scholar should also have been able to define the types of works and activities through which the ancient Greeks explored the inner being just as, through science and technology, they explored the physical world. The inquiry therefore has to cover an extremely vast and varied field, including linguistic facts and the development of vocabulary (especially psychological vocabulary); social history, particularly the history of law, but also the history of family life and of political institutions; large chapters of the history of thought, those, for instance, which pertain to the concepts of the soul, of the body, and of individuality; the history of moral ideas - for instance, shame, guilt, responsibility, and merit; the history of art, and in particular the problems arising from the emergence of new literary genres such as lyric poetry, tragedy, biography, autobiography, and the novel (in so far as these last three terms are appropriate with reference to the Greek world); the history of painting and of sculpture, with the development of portraiture; and finally the history of religion.

Since it would not be possible to encompass all these problems within a short study, we have decided to limit ourselves to the evidence provided by religion. Furthermore, we shall consider only the religion of the classical period, and shall not concern ourselves with any innovations introduced in the Hellenistic period. The limitations thus imposed from the start upon our inquiry are bound to make it all the more demanding. Since it is confined to religion, we have had to draw careful distinctions within this domain. We have had to consider, in

each instance, the effect any particular aspect has had on the history of personality and how far religious beliefs and practices, through their psychological implications, affect the inner state and contribute toward developing identity. As will be seen, our conclusions are in general negative, and we have been led to emphasize especially the differences and the distance that, in terms of religious life, separate the fifth-century Greek from the believer of today.

The greater part of this collection is devoted to psychological categories which, owing to a lack of contact between Greek scholars and psychologists, have not hitherto been the subject of research carried out from an historical point of view. They include memory and time, space, work and technological activity, imagery and the concept of the double.

Our fullest chapters are concerned with work and with space. Work has marked contemporary social life and contemporary man so deeply that one is quite naturally led to think that it has always been unified and organized as it is today. We have, however, attempted to show that the significance of work patterns and their effects on the group and on the individual have altered greatly. The Greek evidence has seemed to us to be particularly illuminating with regard to an historical study of space. The scientific thought of the Greeks and also their social and political thought seem to be shaped by a geometrical viewpoint; this is in striking contrast to more ancient representations of space, as seen in myth and in religious practices. We have therefore taken the opportunity to follow, by studying one example for which the documentation is particularly full, the transformations in spatial representations. We believe we have managed to distinguish the factors that, in Ancient Greece, determined the development from a conception of space which was religious, qualitative, differentiated, and hierarchical to one that was homogeneous, reversible, and geometrical.

Our study of the colossos and the psychological category of the double should be seen as an initial contribution towards a more ambitious study on the subject of the appearance of the image as such, the emergence of creative activity that produces images (whether artificial objects of a strictly 'imitative' character, or creations of the mind whose aim is more properly 'imagistic') and the development of the psychological function of the imaginary.

While attempting to open up the whole field of Greek studies to the inquiries of historical psychology, we do not underestimate the difficulties of such an enterprise,

which is far beyond our own capability, nor the inadequacy of our results. Our intention has been to pioneer a new approach, to show where the problems lie, and to encourage research.

If this study contributes toward promoting combined research by a group of scholars comprising Greek specialists, historians, sociologists, and psychologists, if it points to the need for a concerted plan of action to study the psychological changes which resulted from the Greek experience and the turning point which this experience marks in the history of the inner being, then it will not have been in vain.

NOTES

1 I. Meyerson, 'Les Fonctions psychologiques et les oeuvres' (Paris, 1948).
2 Z. Barbu, 'Problems of Historical Psychology' (London, 1960).
3 Ibid., chapter 4, 69-144.
4 Cf. Meyerson, chapter 3, l'Histoire des fonctions, especially the pages devoted to the history of personality, 151-85.

Part One

Myth Structures

1 Hesiod's Myth of the Races: An Essay in Structural Analysis

Hesiod's poem 'Works and Days' begins with the telling of two myths. After referring briefly to the existence of a double 'Strife' (*Eris*), Hesiod tells the story of Prometheus and Pandora. This myth is immediately followed by another, the myth of the races, which, as Hesiod says, 'crowns' the first. The two myths are linked. Both evoke a time gone by when people lived untroubled by suffering, sickness, and death. Each in its own way accounts for the ills which since that time have become inseparable from the human condition. The myth of Prometheus suggests a moral so clear that Hesiod has no need to expound it. The myth speaks for itself: through the will of Zeus, who, in order to avenge the theft of fire, has hidden man's livelihood from him - that is to say, his food - the human race is condemned to toil. Man is obliged to accept this harsh divine law and obtain no respite from his toil or his suffering. Hesiod draws from the myth of the races a lesson which he addresses in particular to his brother Perses (a sorry wretch), but which is equally appropriate to the mighty on earth, those whose function it is to settle human quarrels through arbitration, in other words, the kings. Hesiod sums up this lesson in the dictum: 'Observe justice, *dike*, do not allow immoderation, *hubris*, to grow.' (2) However, it must be said that if one is content to accept the usual interpretation of the myth, it is hard to see how this instruction can derive from it.

The story tells of the succession of different races who have preceded us on earth, who have in turn appeared and then disappeared. What is there in such a tale to exhort man to Justice? All these races, be they good or bad, were obliged, when the time came, to quit the light of day. And among those races worshipped by people long after they had disappeared beneath the earth, there were some who, while on earth, manifested an appalling degree

of hubris. (3) Furthermore, the order in which the races appear to follow one upon the other is one of progressive deterioration. They are associated with the metals whose names they respectively bear, and these are arranged in order from the most precious to the least precious, from the highest to the lowest. Gold comes first, then silver, followed by bronze, and finally iron. Thus the myth appears to seek to contrast a divine world whose order has been unchangeably fixed ever since Zeus's victory with a human world in which disorder gradually establishes itself, until the scales are finally tipped decisively towards injustice, misfortune, and death. (4) But this picture of humanity destined to a fatal and irreversible decline seems hardly likely to convince either Perses or the kings of the virtues of dike and the dangers of hubris.

This initial difficulty concerning the relationship between the myth as it appears to us and the significance that Hesiod attaches to it in his poem is matched by another which has to do with the structure of the myth itself. Hesiod adds a fifth race to the races of gold, silver, bronze, and iron. It is the race of heroes which does not correspond to any particular metal. Since it is inserted between the ages of bronze and iron, it upsets the parallelism between the races and the metals. Moreover, it interrupts the movement of continuous decline symbolized by the scale of metals of regularly decreasing value. Indeed, the myth makes it quite clear that the race of heroes is superior to that of bronze which precedes it. (5)

Erwin Rohde noticed this anomaly, and noted that Hesiod must have had extremely powerful motives to introduce into the structure an element which was manifestly foreign to the original myth, particularly when this intrusion appeared to disrupt its logical pattern. (6) Rohde observed that what interests Hesiod most about the heroes is not their earthly existence but their destiny after death. In the case of each of the other races, Hesiod described on the one hand its life here on earth, and on the other what became of it once it had left the light of day. So it would appear that the myth was serving two purposes - first, revealing the increasing moral decline of the human race; and, second, giving an insight into the destiny after death of each successive generation. Although the presence of the heroes appears misplaced from the point of view of the first aim, it is fully justified from the point of view of the second. Where the heroes are concerned, this subsidiary purpose appears to have become the principal one.

Taking these observations as his starting point, Victor Goldschmidt suggests an interpretation that goes further. (7) According to this author, the destiny of the metal races after they have disappeared from earthly life is to be 'promoted' to the rank of divine powers. The individuals of gold and of silver become daemons, *daimones*, after their death. Those of bronze became the people of the dead in Hades. Only the heroes do not benefit from a transformation which could only bring them what they already possess: heroes they are, and heroes they stay. We can, however, see why they are introduced into the myth once we realize that their presence is indispensable if the list of divine beings is to be complete. According to traditional classification, apart from the *theoi*, gods in other words (of whom no mention is made in the myth) the list consists of the following categories: daemons, heroes, and the dead. (8) Thus Hesiod would appear to have developed his account of the myth by uniting two different traditions which were no doubt originally independent, and adapting them to each other. On the one hand, there is the genealogical myth of the races, involving the symbolism of the metals and depicting the moral decline of the human race. On the other, we have a structural division of the divine world which involved reshaping the original pattern of the myth so as to include the heroes. In this way the myth of the ages could be seen as the most ancient example of an attempt to reconcile a genetic and a structural point of view. It is an attempt to make the stages of a temporal succession correspond, term for term, with the elements of a permanent structure. (9)

Goldschmidt's interpretation has the merit of emphasizing the unity and internal coherence of Hesiod's myth of the races. Whether the myth originally included the race of heroes is a matter of great scholarly controversy. (10) But it is certain that Hesiod rethought the overall mythical theme from the point of view of his own preoccupations. So we must consider the myth as it is presented to us in the context of 'Works and Days', and ask ourselves what, in this form, it means.

On this point one preliminary observation should be made. So far as Hesiod is concerned one cannot speak of an antinomy between the genetic myth and the structural arrangement. In mythical thought any genealogy is also at the same time the expression of a structure; and there is no way to account for a structure other than to present it in the form of a genealogical tale. (11) The myth of the ages is not, in any respect, an exception to this rule. And the order in which the races follow one another on

earth is not, strictly speaking, chronological. How could it be? Hesiod does not have in mind the idea of a unique and homogeneous time within which each of the races has a fixed and definite place. Each race has its own time, its own age which expresses its particular character. This time, just as much as its way of life, its activities, its qualities, and its defects, defines its status in contrast to that of the other races. (12) If the race of gold is called 'the first', it is not because it arose one fine day, before the others, in the course of linear and irreversible time. On the contrary, if Hesiod describes it at the beginning of his account, this is because it embodies virtues - symbolized by gold - which are at the top of a scale of nontemporal values. The succession of the races in time reflects a permanent, hierarchical order in the universe. As for the idea of a continuous and progressive decline, which the commentators all agree is to be found in the myth, (13) this is incompatible not only with the episode of the heroes (and one can hardly suppose that Hesiod did not notice this), but also with the notion of time which in Hesiod is not linear but cyclical. The ages succeed one another to form a complete cycle, which, once completed, starts all over again, either in the same order, or, more probably, as in the Platonic myth in the 'Politicus', in reverse order, so that cosmic time is unfolded alternately, first in one direction and then in the other. (14) Hesiod laments the fact that he himself belongs to the fifth and last race, the race of iron, and at that point expresses the regret that he has not died earlier or *been born later*. (15) This remark is incomprehensible in the context of human time that is continuously degenerating, but it makes perfect sense if we accept that the series of ages is a recurring renewable cycle, just like the sequence of the seasons.

Within the framework of a cycle such as this, even without taking into account the case of the heroes, the order in which the races succeed one another does not appear to follow a progressive decline at all. The third race is not 'worse' than the second, and Hesiod never suggests that it is. (16) In the text, the people of the silver age are characterized by their mad excesses and their lack of piety, and the people of bronze by their acts of immoderation. (17) What is there in this to suggest a progressive decline? There is indeed so little progression that the race of silver is the only one whose faults arouse the anger of the gods and which Zeus annihilates as punishment for its lack of piety. The race of bronze dies, as do the heroes, fighting in war. When

Hesiod wishes to make a value judgment between two races he formulates it explicitly and always in the same way: he contrasts the two races in terms of dike versus hubris. He stresses that there is a contrast of this kind in the first place between the first and second races, and then again between the third and fourth. To put it more precisely, in terms of a value judgment the first race is to the second what the fourth race is to the third. Hesiod indeed states that the race of silver is 'very much inferior' to the race of gold on account of its hubris, by which the race of gold is quite untainted. (18) He further states that the heroes are 'more just' than the race of bronze, which is also pledged to hubris. (19) On the other hand, he makes no comparative value judgment between the second and third races. The race of bronze is simply described as being 'in no way similar' to the race of silver. (20) Thus, so far as the relationships between the first four races are concerned, the text presents the following structure: a distinction is made between two different groups with gold and silver in the one, and bronze and the heroes in the other. Each group is divided into two antithetical aspects, one of which is positive and the other negative, and each thus comprises two associated races, each of which is the necessary counterpart to the other and stands in contrast to it as dike does to hubris. (21)

The distinction between the first and second two races depends, as we shall see, upon the fact that different functions are involved. They represent opposed types of human agents, forms of behaviour, and social and 'psychological' states. We shall have to be more specific on these points, but we can note, straight away, one feature in which they are not symmetrical. In the first pair the dominant value is dike, hubris is secondary, treated as its counterpart. In the second pair the opposite is true: the principal consideration is hubris. Thus while each of the two pairs has a just and an unjust aspect, it can be said that, taken together, they are opposed to each other, just as dike and hubris are. This explains the difference between the two sets of races in their fates after death. The race of gold and the race of silver are both promoted, in the strict sense of the term: from being perishable beings they become daemons. As in their existence on earth, so too in the afterlife, the relationship that links them is one of opposition. The race of gold becomes epichthonian daemons and the men of silver hupochthonian daemons, (22) and mortals do 'honour' to both of them: royal honour, *basileion*, for the race of gold, and lesser honour for the race of silver, since it

is, after all, 'inferior' to the race of gold. Nevertheless, it is honour for all that, even though it cannot be justified by virtues or merits, for in their case these do not exist. Its only justification can be that the race of silver belongs to the same category of reality as the race of gold since it represents the same function, only in its negative aspect. The posthumous fate of the races of bronze and of heroes is quite different. Neither, as a race, is promoted. The race of bronze's destiny cannot be called a 'promotion', for it is in no way exceptional. Having died in battle, the people become the 'anonymous' dead in Hades. (23) Most of those who make up the race of heroes share this common fate. Only a few privileged persons from this more just race escape the ordinary anonymity of death, and, by the grace of Zeus who rewards them with this special favour, retain an individual name and existence in the afterlife. These few are carried away to the Island of the Blessed where they live a life free from all cares. (24) But they are not in any way venerated or honoured by mortals. Rohde was right to emphasize the 'total isolation' of their existence in a world which seems quite cut off from ours. (25) Unlike the daemons, the erstwhile heroes have no power over the living and the living do not worship them.

These strongly marked parallels show that, in Hesiod's version of the myth, the race of heroes is not a badly integrated feature distorting the structure of the myth but an essential part of it, without which the overall balance would be upset. On the other hand, the fifth race does seem to present a problem. It introduces a new dimension, a third category of reality, which, unlike the other two, does not seem to be divisible into two antithetical aspects, but appears to be presented as a single race. However, it is clear from the text that in fact there is not just *one* age of iron, but rather two types of human existence, in strict opposition to each other, one of which acknowledges dike while the other knows only hubris. Hesiod lives, in fact, in a world where people are born young and die when they are old, where there are 'natural' laws (the child resembles the parent), and also 'moral' ones (guests, relations, and oaths should be respected). It is a world where good and evil are intimately mixed but counterbalance each other. Hesiod, however, foretells the coming of another life, which will be, in every way, different from the first. (26) In it people will be born old with white hair, the child will have nothing in common with the parent, one will recognize neither friends nor brothers nor parents nor oaths. Right will rest upon might alone. In this world, given

over to disorder and hubris, there will be no good to compensate for suffering. In the light of this one can see how the episode of the age of iron, in both its aspects, can correspond to the preceding themes, so as to complete the overall structure of the myth. The first category, made up of the gold and silver races, was concerned in particular with the exercise of dike (in the relations of people with one another and with gods); the second, the bronze race and the heroes, was concerned with the manifestation of the physical force and violence linked with hubris; the third, the iron age, is related to an ambiguous human world characterized by the coexistence of opposites within it. Everything good has its evil counterpart: birth implies death; youth, age; abundance, toil; happiness, misfortune. Dike and hubris, being present side by side, offer two equally possible options between which humans must choose. To this mixed world, which is that of Hesiod himself, the poet contrasts the terrifying prospect of a human life where hubris has triumphed totally, an upside-down world where nothing has survived but unadulterated disorder and misfortune.

The cycle of ages would then be completed and time could do nothing but return in the opposite direction. In the age of gold everything was order, justice, and joy: this was the reign of pure dike. By the end of the cycle, in the latter part of the age of iron, everything will be abandoned to disorder, to violence, and to death: this will be the reign of pure hubris. From one reign to the next the succession of the ages does not show a progressive decline. Instead of a continuous temporal succession of that sort, there are phases which alternate according to whether they oppose one another or are complementary. Time does not unfold according to a chronological sequence, but according to the dialectical relationship of a system of antinomies. We must now indicate the extent to which this system corresponds to certain permanent structures in human society and the world of the gods.

There is no doubt at all that the people of gold are royal *basileis* and take no part in any form of activity which falls outside the province of kingship. Their way of life is defined, negatively, in two ways: they are unacquainted with war and live at peace, ἥσυχοι, (27) which is unlike the people of bronze and the heroes, who are dedicated to fighting. And, second, they know nothing of labour in the fields, for the earth 'spontaneously' produces countless blessings for them, (28) - this is in contrast to the people of iron, who are dedicated to *ponos*

and are obliged to till the earth to produce their food. (29)

Gold itself, whose name this race bears, is, as has been shown, a symbol of royalty. (30) In Plato's version of the myth, gold is the distinguishing and qualifying mark of those, among the different kinds of humans, who are born to command, archein. (31) The race of gold existed in the time when Kronos, ἐμβασίλευεν, ruled in heaven. (32) Kronos was a ruler god with associations with the royal function, and at Olympia, each year at the spring equinox, a college of priests made sacrifices to him on the top of Mount Kronos. These priests were known as the 'royal ones', basilai. (33) Finally, the race of gold enjoys a royal privilege, *basileion geras*, once it has passed away, for its members are transformed into the épichthonian daemons. (34) The expression '*basileion geras*' acquires its full force when it is pointed out that in the afterlife these daemons assume the two functions which, according to the religious conception of royalty, manifest the beneficent powers of the good king. As *phulakes*, (35) the guardians of mortals, they see to it that justice is observed while, as *ploutodotai*, the dispensers of riches, they encourage the fertility of the soil and the increase of the flocks. (36)

Moreover, in Hesiod the same expressions and words used to describe the people of the ancient race of gold are equally applied to the just rulers of the contemporary world. The people of gold live 'like gods', ὥς θεοί; (37) and at the beginning of Hesiod's 'Theogony', when the just king enters the assembly, ready to settle quarrels and restrain excess by his wise and gentle words, he is hailed by all as θεὸς ὥς, like a god. (38) The same picture of holidays, feasting, and peace amid the abundance generously dispensed by a totally undefiled earth appears twice. (39) The first instance is the description of the happy existence of the race of gold; the second, that of the life in the city which flourishes in endless prosperity, under the reign of the just and pious king. In contrast, when the *basileus* forgets that he is the 'scion of Zeus', and with no fear of the gods betrays the function symbolized by his *skeptron*, by straying from the straight paths of dike through hubris, the city experiences nothing but calamity, destruction, and famine. (40) The reason for this is that close to the kings, mingled among human beings, thirty thousand invisible immortals are watching, in the name of Zeus, over the justice and piety of the rulers. There is not a single transgression committed by the kings against dike that is not, sooner or later, punished through the immortals' intercession. And among

this myriad of immortals, who are, as the poet tells us in line 252, ἐπὶ χθονὶ ... φύλακες θνητῶν ἀνθρώπων, we are bound to recognize the *daimones* of the age of gold who are described in line 122 as ἐπιχθόνιοι, φύλακες θνητῶν ἀνθρώπων.

Thus the same portrait of the good ruler is projected on three different levels at once. It appears in a mythical past where it represents primitive humanity in the age of gold; in contemporary society it is embodied in the person of the just and pious king; and in the supernatural world it represents a category of daemons who, in the name of Zeus, see to it that the royal function is exercised correctly.

Silver does not possess a specific symbolic meaning of its own. It is defined in terms of gold, being like gold a precious metal, but inferior to it. (41) Similarly, the race of silver which is inferior to the race that preceded it exists and is defined only in relation to it. It is on the same plane as the race of gold, and is its exact counterpart and opposite. Pious rule is opposed by impious rule, and the figure of the king who shows respect for dike is contrasted with that of the king who has committed himself to hubris. What seals the doom of the race of silver is, in effect, their 'mad immoderation', ὕβριν ἀτάσθαλον, which they cannot avoid either in their relations between themselves or with the gods. (42) But this hubris which characterizes them only applies to the way they rule. It has nothing to do with the hubris of war. The race of silver, like the race of gold, has no part in military activities, for these do not concern them any more than work in the fields. Their immoderation operates in an exclusively religious and theological context. (43) They refuse to sacrifice to the Olympian gods, and although they may practice *adikia* among themselves, it is only because they do not wish to recognize the sovereignty of Zeus, the master of dike. For royalty, it is natural that hubris should take the form of impiety. Similarly, in his description of the unjust king, Hesiod makes it very clear that the reason why this monarch passes unjust sentences and oppresses people is that he has no fear of the gods. (44)

Because it is impious, the race of silver is wiped out by the wrath of Zeus. As the counterpart of the race of gold it enjoys comparable honours after its chastisement. The link, based on function, between the two races is maintained after death by the parallelism, already stressed, between the *epichthonians* and *hypochthonians*. Furthermore, there are also striking analogies between the race of silver and another group of mythical figures, the

Titans. (45) They share the same character, the same function, and the same destiny. The Titans are the deities of hubris. The mutilated Ouranos reproaches them for their mad pride, ἀτασθαλίη, and Hesiod himself calls them ὑπερθύμοι. (46) Power is the vocation of these proud ones. They aspire to kingship. They enter into competition with Zeus for the *archè* and *dunasteia* of the universe. (47) It is a natural, if not legitimate, ambition, for the Titans are royal. Hesychius relates Τιτάν (Titan) to Τίταξ- meaning 'king' and Τιτήνη meaning 'queen'. While Zeus and the Olympians represent the rule of order, the Titans embody the rule of disorder and hubris. Once they have been defeated, they must, like the race of silver, leave the light of day. They are hurled far from the heavens, even beyond the surface of the earth, and they too disappear ὑπὸ χθονός. (48)

Thus the parallelism between the races of gold and of silver is confirmed by the fact that on each of the three planes where the image of the just king appears, so too does that of his double, the king of hubris. It is confirmed further by the exact correspondence between the races of gold and silver on the one hand, and between Zeus and the Titans on the other. What we find in the account of the two first stages of mankind is the same structure as that found in Hesiod's myths concerning sovereign power.

With the race of bronze we enter a different sphere of action. Let us consider how Hesiod himself puts it: '... a brazen race, sprung from the ash-trees; and it was in no way like the silver age, but was terrible and strong. They loved the lamentable works of Ares and deeds of violence.' (49) One could not state more clearly that the excesses of the race of bronze do not bring it closer to, but contrast it with, the race of silver. The hubris which characterizes it is exclusively military, a matter of the warrior's behaviour. We have moved from the juridical and religious plane to that of manifestations of brute force (μεγάλη βίη), physical energy (χεῖρες ἄαπτοι ... ἐπὶ στιβαροῖσι μέλεσσι), and the terror (δεινόν ἄπλαστοι) which the warrior inspires. The people of bronze do nothing but make war. In their case there is no mention of the exercise of justice (with straight or crooked sentences), nor of any worship of the gods (piety or impiety), just as in the preceding cases there was no mention of any kind of military activity. Equally, the race of bronze does not participate in the activities which characterize the third group, the race of iron: the people do not eat bread, (50) which would suggest that they know nothing of work on the land and the

growing of cereals. Their death is in line with their life. They are not destroyed by Zeus but die in war, falling under the blows they deal each other, overcome 'by their own arms', in other words, by that physical strength which is the expression of their essential nature. They are entitled to no honours: 'terrible though they were', they pass away into the anonymity of death.

Apart from this explicit information, the author supplies certain symbolical details which complete the picture. First, the reference to bronze has no less precise a meaning than that of gold. The god Ares himself is described with the epithet *chalkeos*. (51) The fact is that bronze, by virtue of certain of its attributes, appears to be closely linked in Greek religious thought with the power possessed by the defensive arms of the warrior. The metallic sheen of the 'flashing bronze', νώροπα χαλκόν, (52) the sheen from the bronze which sets the plain alight (53) and which 'goes up to the heavens' (54) fills the enemy's soul with terror. The sound of bronze against bronze, the φωνή which reveals its true nature as living, animated metal, wards off the witchcraft of the enemy. These defensive arms made of bronze - the breastplate, helmet, and shield - are complemented in the panoply of the mythical warrior by some kind of offensive weapon, a lance, or, even better, a javelin made from wood. (55) We can be even more precise. The lance is made of wood that is both extremely supple and at the same time very hard, the wood of the ash. And the same word, μελία, is used on some occasions of the javelin itself and on others of the tree from which it is made. (56) It is easy to understand why Hesiod said that the race of bronze came from the ash trees, ἐκ μελιᾶν. (57) The *meliai*, the nymphs of the trees of war, which themselves reach up to the sky like lances, are constantly associated in myth with the supernatural beings that represent the warrior. As well as the race of bronze born from ash trees, we must also mention the giant Talos, whose entire body is made from bronze. He is the guardian of Crete, and, like Achilles, enjoys a qualified invulnerability over which only Medea's magic wiles can triumph. Talos too was born from an ash tree. The band of giants have a direct relationship with the *meliai* nymphs. Francis Vian (58) has shown that the giants represent a typical military brotherhood, and they too enjoy a qualified invulnerability. The 'Theogony' tells how 'the great Giants with gleaming armour (made of bronze), holding long spears (made of ash wood) in their hands and the Nymphs whom they call Méliae' were born together. (59) And in the group around the cradle of the infant Zeus of

Crete, alongside the courètes dancing their war dance and clashing their arms and shields to make the bronze ring out, Callimachus still includes the *dyktaiai meliai* whom he calls, significantly, Κυρβάντων ἑτάραι. (60)

The ash trees or the nymphs of the ash trees, from whom the race of bronze was born, also play a role in other accounts of early mortals. In Argos, Phoroneus, the first man, is descended from a Méliad. (61) In Thebes, Niobe, the primeval mother, produces seven Méliades, and one may suppose that, as *hetairai* and as wives, they become the female counterparts to the first native men. (62) These accounts of indigenous origins belong, in most cases, to a body of myths about the role of the warriors which appear to correspond to ritual scenes mimed by a band of young armed warriors. Vian has emphasized these points in the case of the giants who form ὁ γηγενὴς στρατός, 'the armed band born from the earth', to borrow a phrase from Sophocles. (63) This band conjures up a picture of lances brandished on the plain, λόγχη πεδιάς, and brute force, θήρειος βία. The Arcadians,,described as 'those famed for their lances' in the 'Iliad' (64) and as *autochthones hubristai* by the scholiast of Aeschylus's 'Prometheus', (65) claimed descent from a tribe of giants whose chief was Hoplodamos.

The mythical origin of the Thebans was similar. The Spartans who were their forebears were also *gègeneis* who rose up from the earth, already fully armed, and immediately started to fight against each other. The story of these Spartans (the word means 'sown') is worth examining more closely. It illuminates certain details concerning the manner of life and the destiny of the race of bronze. Once Cadmus had arrived at the place where he was to found Thebes, he sent some of his companions to fetch water at the fountain of Ares which was guarded by a snake. (66) This snake, which is sometimes represented as one of the *gègeneis* and sometimes as a son of Ares, (67) kills the band of men - whereupon the hero slays the monster. Acting upon the advice of Athena, he sows its teeth across a plain or *pedion*. Immediately, fully grown, armed men sprout up and emerge in this field; they are ἄνδρες ἔνοπλοι. As soon as they are born, they engage in a fight to the death among themselves, and, like the race of bronze, they all perish, except for five survivors who become the ancestors of the Theban aristocracy. The same ritual pattern is to be found, in a more detailed form, in the myth about Jason at Colchis. The test that King Aietes imposes upon the hero is a feat of ploughing of a strange kind. Jason has to go to a field not far from the town, which is called the *pedion* of Ares. There he

must yoke two monstrous oxen with brazen hooves who belch forth fire. He must harness them to a plough and plough a four-acre field. In the furrow he has to sow the teeth of the dragon from which immediately spring a cohort of armed, fighting giants. (68) Thanks to a potion Medea has given him, which makes him temporarily invulnerable, giving his body and arms a supernatural strength, Jason emerges triumphant from this feat of ploughing, all of whose details emphasize its fundamentally military character: it takes place in an uncultivated field, consecrated to *Ares*; in this field are sown *not the fruits of Demeter but the teeth of the dragon*; Jason arrives there dressed not as a peasant but as a warrior, in a breastplate and with a shield, holding his helmet and his lance; last, *he uses his lance as a goad* to control the oxen. When the ploughing is done the *gègeneis* spring up from the earth, like the Spartans. According to Apollonius Rhodius,

> The plot bristled with stout shields, double-pointed spears, and glittering helmets. The splendour of it flashed through the air above.... Indeed this army springing from the earth shone out like the full congregation of the stars piercing the darkness of a murky night.

Thanks to Jason's trick of throwing a huge boulder into their midst, the army's members fall upon and massacre each other. This ploughing is a strictly military exploit; it has nothing to do with the fertility of the soil and has no effect upon its productivity. Thus it perhaps helps us to understand one of Hesiod's observations whose paradoxical nature has often been pointed out although no satisfactory explanation for it has yet been given. In line 146 the poet specifies that the race of bronze 'eats no bread'; a little further on he states that: 'their armour was of bronze and their houses of bronze and with bronze they ploughed.' (69)

There seems to be a clear contradiction here. Why should they plough the fields if they do not eat wheat? The difficulty would be removed if the ploughing of the race of bronze, being likened to that of Jason, was considered as a military ritual and not an agricultural task. We can support such an interpretation with one final analogy between the race of bronze and the 'sown ones', the sons of the furrow. The Spartans born of the earth belong, as does the race of bronze, to the race of ash trees. They too are ἐκ μελιᾶν. Indeed, they can be recognized by the sign of the lance, the distinctive mark of their race, (70) which is tattooed upon their bodies. And this sign marks them out as warriors.

There is a difference of value as well as of function

between the lance, a military attribute, and the sceptre, the symbol of royalty. Normally the lance is subordinate to the sceptre. When this hierarchy is no longer respected, the lance comes to express hubris, just as the sceptre expresses dike. Hubris, for the warrior, consists in wishing to recognize nothing but the lance, and in devoting oneself entirely to it. This is the case of Kaineus, the Lapith with a lance, who - like Achilles, Talos, the giants, and all those who have undergone initiation as warriors - enjoys a qualified invulnerability. (He can be killed only by being buried beneath a mound of stones.) (71) He sticks his lance into the very centre of the agora, sets up a cult to it, and forces passersby to worship it as if it were a god. (72) It is likewise the case of Parthenopaeus who is a typical incarnation of warlike hubris: he worships nothing but his lance, revering it more than a god, and swearing by it. (73)

The race of bronze is born of the lance, devoted to Ares, and has no legal or religious function. It projects into the past an image of the warrior dedicated to hubris in the sense that he does not wish to know of anything foreign to his own nature. But the exclusively physical violence which is glorified in warlike man cannot carry him over the threshold of the afterlife. In Hades the race of bronze fades away like a wisp of smoke, into the anonymity of death. This same element of military hubris is also to be found embodied in the giants in the myths of kingship that tell of the struggle for power among the gods. After the defeat of the Titans, the supremacy of the Olympians is assured by their victory over the giants. The Titans, who were immortal, were sent away in chains into the depths of the earth. But the giants suffer a different fate. The gods deny them their invulnerability and they perish. For them defeat means that they will have no share in the privilege of immortality which is what they covet. (74) Like the race of bronze, they share the common fate of mortal beings. The hierarchy of Zeus, Titans, and giants, corresponds to the sequence of the first three races.

The race of heroes is defined in relation to the race of bronze, as its counterpart in the same sphere of action. The heroes are warriors; they wage war and die in war. Far from bringing them closer to the race of silver, the hubris of the men of bronze sets them further apart. Conversely, instead of the dike of the heroes setting them apart from the race of bronze, it in fact associates them as a pair of opposites. In effect the race of heroes is called δικαίοτερον καὶ ἄρειον: it is more just and at the same time more courageous in battle. (75) Its dike

concerns the same military function as the hubris of the race of bronze. The warrior dedicated by his very nature to hubris is contrasted with the warrior who is just, and who, acknowledging his limitations, is willing to submit to the superior order of dike. These two antithetical portraits of the fighter are those which Aeschylus presents in dramatic confrontation in his 'Seven against Thebes'. Here a warrior representing hubris, wild and frenzied, stands before each gate. Like a giant, each one expresses impious sarcasms aimed at the sovereign gods and Zeus. In each case each one of them is opposed by a 'more just and more courageous' warrior who, since his ardour in battle is tempered by *sôphrosunè*, knows how to respect all things deemed sacred.

The heroes are the embodiments of the just warrior and, thanks to Zeus's favour, they are transported to the Island of the Blessed, where, for all eternity, they lead a life similar to that of the gods. In the kingship myths there is one category of supernatural beings which corresponds exactly with the race of heroes, and in the hierarchy of divine creatures it occupies the place reserved for the warrior who is the champion of order. The reign of the Olympians presupposed a victory over the giants who represented the military function. But sovereign power could not exist without force. The sceptre is bound to depend upon the lance. Zeus needs to be constantly accompanied by Kratos and Bia who never leave his side. (76) In order to win their victory over the Titans, the Olympians were obliged to resort to force and call in 'soldiers' to aid them. The hundred-armed (hécatoncheires), who help them to prevail, are, in effect, warriors similar in every respect to the giants and the race of bronze. They are insatiably warlike and proud of their strength; and their size and the immeasurable power of their arms strike terror on all sides. (77) They are the embodiment of Kratos and Bia. According to Hesiod, (78) the struggle between the Titans and Olympians had already been going on for ten years. Victory was undecided between the two royal camps. But Earth had revealed to Zeus that success would be his if he could win the help of the hundred-armed, whose aid would be decisive. Zeus managed to enlist their support. Before the final attack, he asked them to unleash their 'great might', μεγάλην βίην, and their 'unconquerable strength', χεῖρας ἀάπτους, (79) in battle against the Titans. But he also reminded them never to forget to repay the 'friendly kindness' which he had shown them. (80) On behalf of his brothers, Cottus, who had been given the title of ἀμύμων for the occasion, paid homage in his reply

to the superior wisdom and understanding (πραπίδες, νόημα, ἐπιφροσύνη) of Zeus. (81) He undertook to fight the Titans ἀτενεῖ νόῳ καὶ ἐπίφρονι βουλῇ, 'with fixed purpose and wise determination'. (82) In this episode the hundred-armed are behaving in a way entirely opposed to warlike hubris. They are subject to Zeus and no longer appear as creatures of pure pride. The military valour of these φύλακες πιστοὶ Διός, these 'trusty guardians of Zeus', as Hesiod calls them, (83) is henceforth matched by their *sôphrosunè*. In order to persuade them to co-operate, and to repay them for their help, Zeus grants the hundred-armed a favour which in certain aspects recalls the one he conceded to the race of heroes when he made them 'demigods', endowed with immortal life on the Island of the Blessed. On the eve of the decisive battle he offers the hundred-armed nectar and ambrosia, the food of immortality which is the exclusive privilege of the gods. (84) He thus allows them to accede to a divine status which was not previously theirs. He confers upon them a full and perfect immortality which they, like the giants, lacked hitherto. (85) From a political point of view, Zeus's generosity is not entirely disinterested. The function of fighting, which is henceforth to be associated with sovereign power, is now integrated with it instead of being in opposition to it. Nothing remains to threaten the reign of order.

There is nothing particularly surprising about the picture of human life in the age of iron. Hesiod had described it already in the introduction and again in the conclusion to the myth of Prometheus. The picture is one of disease, old age, and death; ignorance of what the morrow holds and anxiety for the future; the existence of Pandora, the woman; the need to toil. To us these appear to be disconnected features, but for Hesiod they all form part of a unified picture. The themes of Prometheus and Pandora are like two panels depicting one and the same story. It is the story of human wretchedness in the age of iron. There is the need to toil on the land to provide for one's sustenance and man's need of woman in order to reproduce, to be born and to die, to experience each day both anxiety and hope regarding an uncertain future. The race of iron leads an existence which is ambiguous and ambivalent. Zeus willed that for this race good and evil should be not simply intermingled but fused, inseparable. That is why man cherishes this life of misfortune, just as he surrounds Pandora with love - Pandora, this 'lovable evil' that the gods in their irony saw fit to present to him. (86) Hesiod indicates quite clearly the origin of all the sufferings endured by the men of

iron - all their trials, wretchedness, sickness, and anxiety. It is Pandora. If she had not raised the lid of the jar in which all the evils were shut up, humans would have continued to live as they had hitherto, 'remote and free from ills and hard toil and heavy sicknesses which bring the Fates upon them'. (87) But all these evils have spread through the world. Hope, however, still exists, for life is not all darkness and humans still find blessings mixed with the evils. (88) Pandora seems to be the symbol and expression of this life of mixtures and contrasts. Hesiod calls her 'the beautiful evil to be the price for the blessing'. (89) She is a terrible scourge introduced among humans, yet she is also a marvel (*thauma*) adorned by the gods with attractions and graces. She represents an accursed race which man cannot abide but which he cannot do without. She is the opposite of man but also his companion.

In her twofold character as woman and earth, (90) Pandora represents the function of fertility as this is experienced in the age of iron in the production of food and the reproduction of life. There is no longer that spontaneous abundance which, during the age of gold, made living creatures and their sustenance spring up from the soil simply as a result of the rule of justice and nothing else. Now it is man who entrusts new life to the woman's womb, just as it is the farmer who works the land and makes the cereals grow in it. All wealth acquired must be paid for with corresponding effort. For the race of iron, earth and woman are both the sources of fertility and the forces of destruction: they exhaust the energy of the male, squandering his efforts, 'burning [him] up without a flame, however strong he may be', (91) and delivering him over to old age and death by 'reaping the toil of others into their own bellies'. (92)

Hesiod's farmer is plunged into this ambiguous universe. He must choose between two courses which correspond to the two sorts of *eris* mentioned at the beginning of the poem. The good strife is the one which incites man to work, urging him not to be sparing in his efforts to to increase his possessions. It presupposes that he has recognized and accepted the harsh law on which life in the age of iron depends: that there is no happiness or wealth that has not been paid for in advance by the hard toil of labour. In the case of a man whose function is to provide for food, dike consists in total submission to an order which is not of his creating, and which is imposed upon him from outside. For the farmer, respect for dike lies in dedicating his whole life to toil. If he does this, he becomes dear to the immortals; his barn is filled with grain. (93) For him good triumphs over evil.

The other strife is that which incites the farmer to seek wealth not through toil, but through violence, deceit, and injustice, tearing him from the work for which he is made. This *eris* which 'fosters war and quarrels' (94) represents the introduction into the farmer's world of the principle of hubris which is connected with the second sphere of action, that of waging war. However, the farmer who revolts against the order to which he is subjected does not on that account become a warrior. His hubris is not the frenetic zeal which spurs the giants and the race of bronze to do battle. It is closer to the hubris of the race of silver, and is characterized in a negative way by the absence of all the 'moral and religious' sentiments which rule human lives, in accordance with the will of the gods. There is no affection for guest, friend, or brother; no gratitude toward parents; no respect for oaths, justice, or goodness. This hubris knows no fear of the gods, nor is it familiar with the fear that the coward feels when faced with a courageous man. This is the hubris which incites the coward to attack the *areios*, the man more courageous than himself, and to defeat him, not in fair combat, but with twisted words and false oaths. (95)

This picture of the farmer misled by hubris, which is presented in the age if iron in its decline, is essentially that of a revolt against order; an upside-down world where every hierarchy, rule, and value is inverted. The contrast with the image of the farmer who is subject to dike, at the beginning of the age of iron, is complete. A life of mixtures where good things still compensate for bad is opposed by a negative universe of deprivation where all that remains is unadulterated disorder and evil.

In sum, a detailed analysis of the myth from every aspect confirms and emphasizes the pattern which appeared from the start to be emerging from the main structure of the text. We have here, not five races in chronological succession, arranged in the order of a more or less progressive decline, but rather a threefold construction, each level being divided into two opposite and complementary aspects. The same framework which controls the cycle of ages also governs the organization of human society and society in the world of the gods. The 'past', as presented by the stratification of the races, is built upon the model of a timeless hierarchy of functions and values. Thus each pair of ages is defined not only by its position in the sequence (the first two, the next two, and the last two), but also by a specific temporal quality which is closely linked to the type of activity with which it is

associated. The gold and the silver are ages of vitality, still in their youth. The bronze age and the heroes represent an adult life unfamiliar with both youth and age. With the iron age we come to an existence which declines as it becomes older and more exhausted.

Let us undertake a closer examination of these qualitative aspects of the different ages, and of their meaning in relation to other elements of the myth. Both the race of gold and the race of silver are 'young', just as they are both royal. But the symbolic meaning of youth is opposite in the two cases: for the former it is positive while for the latter it becomes negative. The race of gold lives 'forever young' in time, forever new, free from fatigue, sickness, age, and even death, (96) in a time still close to that of the gods. On the other hand, the race of silver represents the opposite aspect of 'youth', not the absence of senility, but plain puerility and the absence of maturity. A man of silver lives for a hundred years in the state of a *pais*, clinging to the skirts of his mother, μέγα νήπιος, like a big baby. (97) Hardly has he emerged from childhood and crossed the crucial point marked by the *metron hèbès*, the threshold of adolescence, than he indulges in a thousand follies and dies forthwith. (98) It is true to say that his whole life amounts to nothing more than an endless childhood and that the *hèbè* is for him the final point of his existence. Thus he has no part in *sôphrosunè*, which is the characteristic of maturity and which can even be especially associated with the figure of the *gerôn* as opposed to that of the young man. (99) Nor does he ever reach the state of those who, having passed the *metron hèbès*, constitute the age group of the *hèbôntes*, the *kouroi*, who are subjected to military discipline. (100)

Hesiod gives us no indication as to how long the lives of the race of bronze and the heroes last. All we know is that they do not have time to grow old: they all die in battle, in the prime of life. No mention is made of their childhoods. We may conjecture that if Hesiod says nothing about their childhoods after having spoken at length about those of the race of silver, the reason is that the members of the race of bronze do not have childhoods. In the poem the men appear from the start as grown men at the height of physical prowess who have never concerned themselves with anything other than the works of Ares. There is a striking analogy here with the myths about indigenous origins in which the *gegéneis* spring up from the ground and appear, not as little children who have just been born and have yet to grow, but as adults fully grown, armed, and prepared for battle, as ἄνδρες

ἔνοπλοι. The fact is that the activity of making war is associated with a particular age group, and thus the figure of the fighter is opposed both to the *pais* and to the *gerôn*. Vian has written the following comment about the giants and it seems to us that it also applies exactly to the race of bronze and the heroes: 'There are neither old men nor infants among them. From their very birth they are the adults or rather the adolescents that they remain until their death. Their existence is confined within the narrow limits of one age group.' (101) The entire life of the race of silver is over before the *hèbè*. The life of the race of bronze and of the heroes begins at the *hèbè*. Neither group ever experiences old age.

Old age is, on the contrary, a characteristic of the age of iron. Here life is spent in a continuous ageing. Here are toil, labour, disease, anxiety - all the evils which constantly exhaust a human being and gradually transform that being from a child to a young man, from a young man to an old man, and from an old man to a corpse. This is a doubtful, ambiguous time with the old and the young associated, inextricably linked, the one implying the other, just as good does evil; life, death; and dike, hubris. This time in which the young grow old is opposed, at the end of the age of iron, by a time given over totally to old age. If men give way to hubris, a day will come when everything that is still young, new, vital, and beautiful will have disappeared from human life: men will be born with their hair already white. (102) The time of mixed fortune will be succeeded by the reign of pure hubris. It will be a time when old age and death take over completely.

Thus the features which give the various races their particular temporal quality fit into the same tripartite pattern which we have seen providing a framework for all the elements of the myth.

This pattern recalls, in its main outlines, the tripartite functional classification whose important influence on Indo-European religious thought has been demonstrated by G. Dumezil (whether or not there is a direct link between these two). (103) The first stage of Hesiod's myth does indeed describe the function of kingship where the king pursues his juridical and religious activities; the second, the military function where the brute force of the warrior imposes a lawless rule; and the third, the function of fertility and vital foodstuffs which are the special responsibility of the farmer.

This tripartite structure forms the framework within which Hesiod has reinterpreted the myth of the races of metals, and it makes it possible for him to include the

episode of the heroes with perfect coherence. Thus modified, the story becomes part of a larger body of myth which it evokes throughout by the subtle yet strict interplay of corresponding relationships at every level. Because it reflects a classificatory system of general relevance, the story of the races carries multiple meanings. It tells of the sequence of the ages of humanity but at the same time it also symbolizes a whole series of fundamental aspects of reality. If this interplay of symbolic images and connections is translated into our own language of ideas it can be presented as a diagram which may be viewed from various angles, where the same structure, regularly repeated, establishes analogical relationships between the different parts. The series of races, the different functional roles, the types of actions and of agents, the age categories, the hierarchy of the gods in the kingship myths, the hierarchy of human society, the hierarchy of the supernatural powers other than the *theoi* - all these different elements that are implied suggest and complement one another.

While Hesiod's account illustrates particularly neatly this system of multiple correspondences and overlaid symbolism which is characteristic of the thought processes of myth, it also presents a new feature. The material is organized in a definite pattern of dichotomies, which dominates the tripartite structure itself and establishes a tension, within each of its elements, between two opposed pulls. This tension between dike and hubris determines the structure of the myth and the various planes upon which it operates, and regulates the interplay of oppositions and affinities. Not only does it govern the form of the myth as a whole and give it its general meaning, but it also gives, in a manner appropriate to each, a certain element of polarity to each of the three functional levels. This is where Hesiod's profound originality lies and this is what makes him a true religious reformer, comparable in manner and inspiration to certain prophets of Judaism.

Why is Hesiod so preoccupied with dike and why does it occupy such a central position in his religious universe? Why does it assume the form of a powerful goddess, the daughter of Zeus, honoured and revered by the gods of Olympus? The answer to these questions does not emerge from a structural analysis of the myth but would emerge from a historical inquiry. Such an inquiry would aim to reveal the problems which faced the smallholder in Boeotia as a result of the changes in social life in about the seventh century, and which prompted Hesiod to rethink the substance of the old myths so as to give them new

meaning. (104) Such an inquiry does not fall within the scope of the present study. However, our analysis of the myth allows us to suggest briefly certain possible lines of research.

It is noticeable that in Hesiod the figure of the warrior, unlike those of the king and the farmer, has a purely mythical significance. There does not seem to be a place either for the warrior role or for the warrior, as these are described in the myth, in the world in which Hesiod and his public live, and which he describes. (105) The aim of the story of Prometheus, of that of the races, of the entire poem in fact, is to instruct Perses, who, like his brother, is a small-scale farmer. Perses is to renounce hubris, settle down to work, and stop seeking lawsuits and picking quarrels with Hesiod. (106) But this lesson, addressed by one brother to another, by one farmer to another, also concerns the basileis in that it is their duty to settle quarrels and adjudicate lawsuits justly. Their sphere of activity is quite different from that of Perses: their role is not to labour, and Hesiod does not exhort them to do so. They must show their respect for dike by pronouncing just verdicts. To be sure, the mythical picture of the good ruler, master of fertility, dispenser of all wealth, is a far cry from the kings who 'devour bribes', (107) whose displeasure Hesiod risks incurring (and that is no doubt partly why, in Hesiod's eyes, dike seems already to have left the earth for heaven). (108) However, the poet remains convinced that the way the kings perform their judicial function has direct repercussions upon the world of the labourer, either favouring or impeding the abundance of the fruits of the earth. (109) There is, then, a connection both mythical and real between the first and third functions, between the kings and the labourers. And Hesiod focuses his interest upon precisely those problems that concern both the first and third functions - those that affect them *both together*. (110) In this sense there are two aspects to his message. It is in itself ambiguous, as is everything in the age of iron. It is addressed to the farmer Perses, at grips with the unproductive earth, with debts, hunger, and poverty, exhorting him to work hard. It is also addressed, over Perses's head, to the kings who live in quite another fashion, in town, spending their time in the *agora*, and who do not have to work. The fact is that Hesiod's world, unlike that of the age of gold, is a world of mixtures where great and small, nobles - ἐσθλοί - and humble folk - δειλοί (111) - kings and farmers coexist side by side, but are set in opposition by their functions. In this discordant universe help can come

only from dike. If dike disappears, everything founders into chaos. But if dike is respected both by those whose lives are dedicated to *ponos* and by those who lay down the law, there will be more blessings than evils; humanity will be able to avoid such sufferings as are not inherent in the mortal condition.

What then is the place of the warrior? In the picture that Hesiod draws of the society of his time they no longer represent a functional category that corresponds to an existing human reality. Their only role is in myth, to explain the presence, in a world of kings and farmers, of an evil principle: that hubris which is the source of discord and strife. It provides an answer to what one might (anachronistically) call the problem of evil. What, after all, is the difference between the justice and fertility which preside over the age of gold and their manifestations in the age of iron, in a world of discord? In the age of gold, justice and abundance are 'pure'. They do not have counterparts. Justice exists for its own sake: there are no quarrels or lawsuits to settle. Similarly, fertility brings abundance 'automatically', without any labour being necessary. The age of gold is unfamiliar with *eris* in all senses. In contrast, strife is what characterizes the way of life of the age of iron, or to be more precise, two contrary forms of strife, the good and the evil. Thus dike, whether it be that of the king or that of the farmer, must always operate *through* one or the other *eris*. The dike of the kings consists in settling quarrels and in arbitrating the disagreements provoked by the evil *eris*. The dike of the farmer lies in making a virtue of *eris*, by directing struggle and competition away from war to agriculture, so that instead of sowing ruin they bring forth fertile abundance.

But where does *eris* come from? - what is its origin? Strife is inevitably associated with hubris and represents the very essence of the activity of the warrior. It is an expression of the innermost nature of the fighter. And this is the principle, which, 'by increasing wicked war', presides over the second of the three functional roles we have discussed.

The myth of the races is thus an example of the way that mythical thought like that of Hesiod can be both rigorously systematic and at the same time original. Hesiod reinterprets the myth of the races of metal within a tripartite framework. But he transforms this tripartite structure: by devaluing the warrior activity he changes it in a way that corresponds with his own religious thought, and by denying it a proper function like those of the other two roles, makes it the source of evil and conflict in the universe.

NOTES

1 'Revue de l'histoire des religions' (1960), 21-54.
2 Hesiod 'Works and Days' 213. On the place and meaning of the two myths in the poem as a whole, cf. Paul Mazon, Hésiode: la composition des Travaux et des Jours, 'Revue des études anciennes', 14 (1912), 328-57.
3 This is the case of the race of silver; cf. l. 143.
4 Cf. Renée Schaerer, 'L'Homme antique et la structure du monde intérieur d'Homère à Socrate' (Paris, 1958), 77-80.
5 'Works' 158.
6 Erwin Rohde, 'Psyche' (8th edn, New York, 1966), 67-78.
7 Victor Goldschmidt, Theologia, 'Revue des études grecques', 63 (1950), 33-9.
8 On this classification, cf. A. Delatte, 'Études sur la littérature pythagoricienne' (Paris, 1915), 48; Goldschmidt, Theologia, 30 and ff.
9 Goldschmidt, Theologia, 37, note 1.
10 It is also agreed that the myth originally included three or four races. Cf., however, the reservations expressed by Mazon who believes Hesiod's work is entirely original (Hésiode, 339) and those of M.P. Nilsson, 'Geschichte der griechischen Religion' 12 (Munich, 1955), 622. The themes of an age of gold and of successive human races destroyed by the gods do indeed appear to have an eastern origin. On this point see the discussion between M.J.G. Griffiths and H.C. Baldry, 'Journal of the History of Ideas', 17 (1956), 109-19, 533-54; 19 (1958), 91-3.
11 In Hesiod's 'Theogony', the genealogies of the gods and the cosmological myths provide a basis for the organization of the cosmos. They explain how the different cosmic levels (the heavenly, the subterranean, and the earthly worlds) came to be separated, and account for the distribution and harmony of the various elements that compose the universe.
12 The ages differ not only in respect to how long they last; their experience of time, the rhythm of the lapse of time, and the direction in which time flows are not the same either; cf. below, pp. 20ff.
13 Cf. Friedrich Solmsen, 'Hesiod and Aeschylus' (New York, 1949), 83, note. 27.
14 Plato 'Politicus' 296c and ff. Several features in the myth in the 'Politicus' recall the myth of the races.
15 Hesiod 'Works' 175.

16 Contrary to Solmsen's claim, when he writes: 'The third generation ... has traveled much farther on the road of *hybris* than the second.' Despite the reference to lines 143-7 there is nothing to substantiate this claim.
17 Compare Hesiod 'Works' 134 ff. and 145-6.
18 Ibid. 127.
19 Ibid. 158.
20 Ibid. 144.
21 E. Meyer noticed the link between the races of gold and silver on the one hand, and the race of bronze and the heroes on the other. But he interpreted it as one of consanguinity, with a process of decline in the first case and improvement in the second; cf. Hesiods Erga und das Gedicht von den fünf Menschengeschlechtern, 'Mélanges Carl Robert' (Berlin, 1910), 131-65.
22 Cf. Hesiod 'Works' 123 and 141: ἐπιχθόνιοι, ὑποχθόνιοι.
23 Ibid. 154: νώνυμνοι.
24 The symmetry between the destinies after death of the men of bronze and the heroes is just as marked as in the case of the men of gold and the men of silver. The men of bronze disappear in death, leaving no name; the heroes live on in the Island of the Blessed, and their names which are celebrated by the poets live on forever in men's memories. The former fade away in night and oblivion while the latter belong to the domain of light and of memory (cf. Pindar 'Olympians' 2, 109 ff.).
25 Rohde, 'Psyche', 77.
26 Cf. Hesiod 'Works' 184: nothing will ever again be as it was in the past, ὣς τὸ πάροζ περ.
27 Ibid. 119.
28 Ibid. 118-19; note the expression: αὐτομάτη.
29 Compare the picture of human life in the age of iron, in 176-8, with that presented in the myth of Prometheus in 42-8, and 94-105.
30 Cf. F. Daumas, La valeur de l'or dans la pensée egyptienne, 'Revue de l'histoire des religions', 149 (1956), 1-18; E. Cassin, Le Pesant d'or, 'Rivista degli Studi Orientali', 32 (1957), 3-11. On the correspondences among gold, sun, and king, cf. Pindar 'Olympians' 1.1 ff.
31 Plato 'Republic' 413c ff.
32 Hesiod 'Works' 111.
33 Pausanias 6.20, 1.
34 Hesiod 'Works' 126.
35 Ibid. 123; cf. Callimachus 'Hymn to Zeus' 79-81:

the kings come from Zeus ...; Zeus sets them up as the 'guardians of the towns'; in Plato ('Republic' 413c ff.), the men of gold who are born to rule are called '*phulakes*'. The term 'guardian', in Plato, refers sometimes to the category of men who govern, in the widest sense, and sometimes, more specifically, to those who are entrusted with the military function. This specialization is understandable: the kings are *phulakes* inasmuch as they watch over their people in the name of Zeus; the warriors fulfil the same function in the name of the king.

36 Hesiod 'Works' 126. The epichthonian daemons who are linked with the function of royalty here assume a role which is normally reserved for female divinities such as the Charites. Now these divinities, on whom depend the fertility or, alternatively, the sterility of the earth, are ambivalent powers. In their white character they manifest themselves as Charites while in their black they become the Erinyes (cf. as well as Aeschylus's 'Eumenides', Pausanias 8.34, 1 ff.). The same ambiguity is revealed in the relationship between the epichthonian daemons and hypochthonian daemons. They appear to represent the two aspects, one positive and the other negative, of the effect of the king on the fertility of the soil. The powers which can encourage or impede fertility manifest themselves on two planes. Normally they operate in the third functional domain (agriculture), as female divinities, but they also operate on the first (kingship) in so far as it affects the third, and here they take the form of male daemons.

37 Hesiod 'Works' 112.

38 Hesiod 'Theogony' 91.

39 Hesiod 'Works' 114 ff., 225 ff.

40 Ibid. 238 ff. The same theme appears in the 'Iliad' 16.386. On the relationship between Zeus, the *skeptron*, and the kings 'who hand out justice', cf. 'Iliad' 1.234; 9.98.

41 Cf. Hipponax frg. 38 (O. Masson) = 34-35 (Diehl). 'Father Zeus, king of the gods (θέῶν πάλμυ), why have you given me no gold, king of silver (ἀργύρου πάλμυν)?'

42 Hesiod 'Works' 134.

43 Referring to a course of lectures given by G. Dumézil, at the École des Hautes-etudes, 1946-7, F. Vian writes, in a note, on the subject of Hesiod's second race: 'It is characterized by immoderation and impiety as seen from a theological, not a military point of view' ('La Guerre des Géants. Le mythe

avant l'époque hellénistique' (Paris, 1952), 183, note 2).

44 Hesiod 'Works' 251.

45 Cf. Mazon, Hesiode, 339, note 3.

46 Hesiod 'Theogony' 209, compare with 'Works' 134 and 'Theogony' 719.

47 Ibid. 881-5; Apollodorus 'The Library' 2.1.

48 Hesiod 'Theogony' 717; cf. also 697.

49 Hesiod 'Works' 144-6.

50 Ibid. 146-7.

51 Cf., for example, Homer 'Iliad' 7.146.

52 Ibid. 2.578; 'Odyssey' 24.467.

53 Homer 'Iliad' 20.156; Euripides 'The Phoenician Women' 110.

54 Homer 'Iliad' 19.362.

55 This 'panoply' is also found in the *palladion* and *tropaion*.

56 Homer 'Iliad' 16.140; 19.361, 390; 22.225; 'Palatine Anthology' 6.52; cf. Hesychius: μελίαι, either δόρατα, trees; or λόγχαι, lances.

57 Hesiod 'Works' 145.

58 Vian, 'La Guerre', especially 280 ff.

59 Hesiod 'Theogony' 185-7.

60 Callimachus 'Hymn to Zeus' 47.

61 Clément 'Stromata' 1.21.

62 Scholiast on Euripides 'The Phoenician Women'.

63 Sophocles 'Trachiniennes' 1058-9.

64 'Iliad' 2.604, 611; 7.134.

65 Scholiast on Aeschylus 'Prometheus' 438.

66 Apollodorus 3.4, 1.

67 Euripides 'The Phoenician Women' 931, 935; Pausanias 9.10, 1.

68 Apollodorus 1. 9, 23; Apollonius Rhodius 'Argonautics' 3.401 ff. and 1026 ff.

69 Hesiod 'Works' 150-1. It does not seem feasible to take this, as some have, to mean: 'they worked in bronze.' Cf. Charles Kerenyi, 'La mythologie des Grecs' (Paris, 1952), 225.

70 Aristotle 'Poetics' 16.1454, B22; Plutarch 'On the Delays of Divine Vengeance' 268; Dio Chrysostom 4.23; Julian 'Speeches' 2.81c.

71 Apollonius Rhodius 'Argonautics' 1.57-64; Apollodorus 'Epitome' 1.22.

72 Scholiast to 'Iliad' 1.264 and to Apollonius Rhodius 'Argonautics' 1.57.

73 Aeschylus 'Sept' 529 ff. Note that this warrior has a name which evokes a young girl (*parthenos*). Kaineus acquired invulnerability when he changed sex; Achilles, the warrior invulnerable except in his heel,

was brought up with girls, and dressed as a girl. Warrior initiation rites involve transvestism.

74 We know that *Ge* tried to procure for the giants a *pharmakon* for immortality, which would protect them from the attacks of Heracles and the gods; Apollodorus 1.6, 1.

75 Hesiod 'Works' 158.

76 Hesiod 'Theogony' 385 ff. Note the exact parallelism between the episode of the hundred-armed and that of Kratos and Bia. Like the hundred-armed, Kratos and Bia take the side of Zeus against the Titans, at the decisive moment. This ensures victory for the Olympians, and Kratos and Bia, again like the hundred-armed, receive as a reward certain 'privileges' which they had not hitherto enjoyed.

77 Compare Hesiod 'Theogony' 149 ff. and 'Works' 145 ff.

78 Hesiod 'Theogony' 617-64.

79 Ibid. 649.

80 Ibid. 651.

81 Ibid. 656-8.

82 Ibid. 661.

83 Ibid. 735.

84 Ibid. 639-40.

85 There are a number of intermediary stages between the mortality of the 'ephemeral ones' and the immortality of the gods, in particular the series of beings known as *macrobioi*, among which must be classed the nymphs such as the *meliai*, and the giants.

86 Hesiod 'Works' 57-8.

87 Ibid. 90 ff.

88 Ibid. 179.

89 Hesiod 'Theogony' 585.

90 Pandora is the name of a goddess of the earth and fertility. Like her double, *Anesidora*, she is represented, in illustrations, emerging from the earth in accordance with the theme of the *anodos* of a chthonian and agricultural power.

91 Hesiod 'Works' 705.

92 Hesiod 'Theogony' 599.

93 Hesiod 'Works' 309.

94 Ibid. 14.

95 Ibid. 193-4.

96 Ibid. 113 ff. Their end resembles sleep more than death. The children of the night, Thanatos and Hypnos, are twins, but opposite twins; cf. Hesiod 'Theogony' 763 ff.: Hypnos is quiet and gentle toward men, while Thanatos has a heart of iron and an implacable spirit.

97 Hesiod 'Works' 130-1.

98 Ibid. 132-3.

99 On the positive aspect of the 'old man', as a synonym for wisdom and justice, cf. Hesiod 'Theogony' 234-6.

100 Cf. Xenophon 'Constitution of Lacedaemon' 4.1: Lycurgus was particularly concerned with the Hebontes or kouroi.

101 Vian, 'La Guerre', 280: 'On ne trouve chez eux ni vieillards, ni bambins: dès leur naissance ils sont des adultes, ou mieux, les adolescents qu'ils resteront jusqu'à leur mort. Leur existence est enfermée dans les limites étroites d'une classe d'âge.'

102 Hesiod 'Works' 181.

103 G. Dumézil, to whom we showed this article in manuscript, points out that in 'Jupiter, Mars, Quirinus' (Paris, 1941), he suggested a trifunctional interpretation of the myth of races. On page 259 he wrote:

> it seems clear that, just as in the corresponding Indian myth, the myth of races in Hesiod associates each of the Ages (or rather each of the three 'pairs' of Ages) in the course of which humanity is renewed only to decline, with a 'functional' conception of the differences in the species - the three functions being religion, war and labour.

Subsequently Dumézil came to accept as satisfactory the interpretation proposed by Goldschmidt. (Cf. Dumézil, Triades de calamités et triades de délits à valeur fonctionelle chez divers peuples indo-européens, 'Latomus', 14 (1955), 197, note 3.) He tells us that the present study seems to support and confirm his first hypothesis.

104 Cf. Edouard Will, Aux origines du régime foncier grec. Homère, Hésiode et l'arrière-plan mycénien, 'Revue des études anciennes', 59 (1957), 5-50. This contains illuminating remarks concerning the changes in the status of the landowner, to which Hesiod's work bears witness. (These modifications include the sharing out of the inheritance, the division of the land into small plots, the different ways of handing on the *kleros*, the problem of debts and of obtaining credit, the process whereby the smallholders became dispossessed and the powerful seized vacant holdings.) Louis Gernet notes that at the time when the term πόλις was introduced, to describe an already organized society, the judicial function was transformed, as can be seen by comparing Homer and Hesiod ('Recherches sur le développement de la pensée juridique et morale en Grece' (Paris, 1917), 14-15).

105 It is well known that at an early stage in the

development of the city state, the warrior disappeared as a particular social category and also as a type of man embodying specific virtues. The transformation of the warrior of the epics into the hoplite fighting in a close formation was not only a revolution in military techniques but was also a decisive social, religious, and psychological change. Cf. in particular, Henri Jeanmaire, 'Couroi et Courètes' (Lille, 1939), 115 ff.

106 On the dispute between the two brothers, the basis for and the vicissitudes of the lawsuit, cf. B.A. Groningen, 'Hésiode et Persès' (Amsterdam, 1957).

107 Hesiod 'Works' 264.

108 Gernet writes:

> Hesiod's δίκη (as opposed to Homer's more homogeneous δίκη) is multiple and contradictory because it is in keeping with a new and critical state of society: δίκη as custom will sometimes be the force behind the law (189, 192); δίκη as sentence is frequently considered to be unjust (39, 219, 221, 262, 264; cf. 254, 269, 271). These two forms of δικη are opposed to divine Δίκη (219-20 and 258 ff.): in these two passages, Δίκη is the formal antithesis of the two δίκη ('Recherches', 16). Cf. also the remarks of the author on the becoming divine of Αἰδώς in Hesiod 75.

109 Hesiod 'Works' 238 ff.

110 This common interest is made explicit in Aratos's poem in the passage where, following Hesiod, he gives an account of the races of metal. The reign of dike here appears to be inseparable from agricultural activity. The men of gold know nothing of discord and strife. For them 'the oxen, the plough and dike herself who is the dispenser of rightful blessings, provide for everything in great abundance.' When the men of bronze forge the sword of war and crime, they kill and devour the oxen used for ploughing ('Phenomena' 110 ff).

111 Hesiod 'Works' 214, where the opposition is very marked.

2 Hesiod's Myth of the Races: A Reassessment

In a reassessment of Hesiod's myth of the races, J. Defradas closely criticized the interpretation which, following G. Dumézil, I had suggested for the text of 'Works and Days'. (2) His own analysis led him to a total rejection of the conclusions I had reached, which, according to him, depended upon a systematic simplification of the evidence provided by the myth and upon a superficial reading of it. Defradas's objections take the following form.

1 He claims that 'in substituting a structural pattern for a chronological one', I have neglected the temporal aspects of Hesiod's myth to the point of suggesting that the races do not succeed one another in time. He suggests that according to me 'the myth groups the races into pairs which do not succeed each other but are simply a transposition of the three fundamental functions of Indo-European society.' He observes that Hesiod took good care to make it quite clear that the second race was created later than the first, μετόπισθεν (l. 127), that the third race did not appear until the second had disappeared nor the fourth until the third had disappeared, and that finally the fifth is introduced by the word ἔπειτα (l. 174). There can therefore be no doubt that we are dealing with a diachronic sequence.

2 It is generally held that, with the exception of the race of heroes, each race is inferior to the one that precedes it. In asserting that nothing of the kind is said of the race of bronze as compared with the race of silver, and that it is presented as being 'in no way similar' rather than inferior to the silver, I have substituted a 'structural' for a 'qualitative' difference. In this way I have sought to establish a thesis according to which, 'in effect, the myth does not express an idea of decline in the course of time'. Defradas points out that there

is an indisputable degeneration between the ages of gold and bronze. It is only interrupted, briefly, by the race of heroes - which shows that this episode was a late insertion. Even if it is true that the text emphasizes in particular the difference between the race of bronze and the race of silver, the fact remains that, in any classification referring to metals, bronze is considerably inferior to silver. Furthermore, the fate after death of the men of silver who are promoted to the rank of the Blessed of the Infernal Regions (μάκαρες Ὑποχθόνιοι) indicates their superiority over the men of bronze whose fate in the afterlife is to be the anonymous people of the dead in Hades. And our critic concludes that it would be excessively subtle to claim that the process of decline is suspended when the race of bronze appears.

3 There is still worse to come. Defradas suggests that, following Dumézil, I was obliged for the purpose of symmetry to discover, or invent, a sixth race to make a pair with the race of iron, which is that of Hesiod himself. Defradas points out that Hesiod never speaks of a sixth race; he simply imagines that there will be a progressive deterioration which will culminate in the death of the race of iron, and this will be when men are born with their temples already white. Thus there are not three pairs of races which might correspond with three Indo-European social functions. The myth must originally have consisted of four races of metal of regularly decreasing worth. Hesiod inserted a fifth race, the race of the heroes, which does not correspond with any particular metal. This is what upsets the normal succession, temporarily interrupting the progressive process of decline.

4 And one final point: Hesiod, who lives among the men of the fifth race, the race of iron, expresses the regret that he did not die earlier, or, alternatively, was not born later. I observed that this is an incomprehensible remark in the context of a human time constantly on the decline, but that it makes perfect sense if one accepts that the sequence of the ages composes a renewable cycle, like that of the seasons. To this Defradas replies: 'To read into this simple remark a conception of cyclical time is indeed already to find in it Orphic doctrines - or echoes of them such as in Plato - concerning the eternal return. There is nothing at all in Hesiod's text to warrant such an extrapolation.' But what then, according to Defradas, does Hesiod's remark signify? As Mazon has already indicated, its meaning would be quite banal. It would not be a precise reference to either a well-defined anterior or posterior state. It would simply be a way of indicating that Hesiod would have preferred to live at *any*

other time rather than his own. Defradas adds to all this some personal reflections on what he calls the 'empiricism' of Hesiod. He suggests that the poet had no planned system; had felt no qualms in interrupting the process of the decline in order to insert the epic heroes into the sequence of the ages. Nor is there, to Hesiod's mind, any reason why the future should be as gloomy as the present. He is indeed far from envisaging the advent of a sixth race worse than the race of iron!

I have summarized as faithfully as I can the four lines of argument along which Defradas believes he has refuted an interpretation which he sees as 'a brilliant essay, but one without foundation'.

It is not through a taste for polemic nor out of a need to justify myself that I have chosen to reply to these objections in detail. Defradas is quite right on one point: this debate is important. Apart from the myth of the races, general problems of method are involved. These affect the entire interpretation of a work like this one by Hesiod. How should we approach the writings of Greece's earliest theological poet? How should we read him to decode his message? How can we hope to understand, through the texts, a system of religious thought whose archaic nature may well prove entirely baffling to the twentieth-century mind.

When I read Defradas's criticisms I sometimes have the feeling that we do not speak the same language and that I have not been understood. I fear I have not been explicit enough on questions which appear to me to be self-explanatory. I am therefore taking this opportunity to explain myself more fully and, by returning to an analysis which to me still seems valid, I should like to make my position more precise on several essential points.

1

Did I really neglect the temporal aspects of the myth? Did I claim that the races do not succeed one another? It seems to me that Defradas's own final objection answers this point. If, as he reproaches me in point 4 above, I was wrong in suggesting that the sequence of the races forms a complete temporal cycle, that they succeed one another as do the seasons, it follows that I clearly recognized their sequence as having a temporal quality. Cyclical time is no less temporal than linear time, but it is so in a different way. The presence, in Hesiod's text, of terms such as 'later' and 'afterwards' thus in no way compromises my interpretation. (3) A large section

of the 'Works and Days' is devoted to a description of the calendar of agricultural tasks punctuating the cycle of the seasons. Hesiod opens his account with the sowing of the seed, at the time of the autumn rains, when the crane is crying and the Pleiades disappear into the sea at their morning setting (448-50). The account closes with the same autumn sowing, with the same setting of the Pleiades, since the end of men's labours introduces a new seasonal cycle (614-17). Should one then conclude that, according to Hesiod, there is no before or after in the sequence of agricultural labours, that they all take place at the same time?

But possibly the contradiction lies not so much with my critic, but rather in the presentation of my study. Did I perhaps maintain in some passages that the time of the races is cyclical and in others that there is no succession in time? Let us examine the question more closely. The first occasion upon which I presented my own interpretation of the myth of the races was orally in 1959, during the Entretiens sur les notions de genèse et de structure. In the discussion which followed I was asked even then whether I had not tended to carry the elimination of temporality too far. My reply was as follows:

> I recognize that a temporality exists for Hesiod, but I believe it to be very different from our present day linear and irreversible notion of time. I would venture to say that it is a time which consists not so much of a succession of moments, but rather of a stratification of layers, where the different ages are superimposed one upon the other. (4)

Here I was taking up a theme which I had developed in an earlier study in which I had written on the subject of the account in the 'Theogony' and the myth of the races:

> This genesis of the world, recounted by the muses, involves a before and after, but it does not take place over a homogeneous period in a single time scale. This past is punctuated not by any chronology but by genealogies.... Each generation, each race, *genos*, has its own time, its own age, the duration, flow, and even orientation of which may be different in every respect from those of all the others. The past is stratified into a sequence of races. These races make up *ancient time*, but for all that, they continue to exist and some of them are more real than present-day life and the contemporary race of human beings. (5)

Perhaps, in order to avoid any misunderstanding, I should have repeated what I had written; but one cannot go on repeating the same point indefinitely. Besides, I assumed that the work undertaken by historians of religion,

anthropologists, psychologists, and sociologists on the different forms of temporality, especially the aspects of what is known as mythical time, were today familiar to all educated readers. However, it is clear that the misunderstanding between Defradas and myself has arisen from the fact that he identifies time, quite purely and simply, with chronology, whereas I am at pains to distinguish between them. In reproaching me for substituting a structural pattern for a chronological one, he concludes that I have excluded all temporality from Hesiod's poem. Yet what I had written was:

> The order in which the races follow each other on earth is not, strictly speaking, chronological. How could it be? Hesiod does not have the idea of a unique and homogeneous time within which each of the races has a fixed and definite place. Each race has its own kind of time, its own age, which expresses its particular character. This time, just as much as its way of life, its activities, and its qualities and defects defines its status in contrary distinction to the other races. (6)

Strictly speaking, one should not talk of chronological time unless each event in the temporal sequence is defined by a date and is, so to speak, characterized by that date. This would presuppose both that pains had been taken to give an accurate dating and also that there were some means of establishing a precise and exact chronology. This is only possible where time is conceived to be a unique, homogeneous framework following a linear, continuous, indefinite, and irreversible course. In these circumstances each event occupies one, and only one, position in the sequence; nothing can ever be repeated. Every event therefore has *its own* date. Not only in Hesiod, but also in the Greek historians, not to mention the tragedians, time does not possess these characteristics - which it acquired only with the development of modern history. Using the work of J. de Romilly, (7) defining the nature of historical time in Thucydides, a psychologist of the calibre of I. Meyerson notes that 'Thucydides, who readily supplies precise numerical and topographical data when these can illuminate his account, never gives a single date.' Meyerson concludes: 'The sequence of events is logical in Thucydides. Everything, in his history, is a construction, and indeed a rigorous one.... Time for Thucydides is not chronological: it is, if one may so call it, logical.' (8)

Of course in Hesiod the sequence of the races does not follow logical imperatives as it does in Thucydides. Hesiod was not educated in the school of the sophists.

But the very idea of chronology is even more inadequate in his case, since he is not dealing with historical time nor with historical events. I therefore asked myself with what kind of order the story of the successive races was constructed. It seemed to me that time passed, not in a continuous fashion, but in a succession of alternating phases, and the races followed one another in antithetical pairs:

> Instead of a continuous temporal succession there are phases which alternate according to whether they oppose each other or are complementary. Time does not unfold according to a chronological sequence, but according to the dialectical relationships of a system of antinomies. We must now indicate the extent to which this system corresponds with certain permanent structures in human society and the world of the gods. (9)

Thus the order of temporal succession, as expressed in a genealogical account, seemed to me to correspond with the hierarchical order which presides permanently over the way society - both human and divine - is organized. How did I understand the relations between the genetic myth and the structural pattern? Is it true that I 'substituted' the latter for the former, to the point of doing away with the genetic aspects? My thesis was the exact opposite. In my view what characterizes Hesiod's thought in the 'Theogony' as in the story of the races is the fact that the genetic myth and the structural divisions, (10) instead of being clearly opposed, as they are to our way of thinking, appear to be indissolubly linked.

> So far as Hesiod is concerned one cannot speak of an antimony between the genetic myth and the structural arrangement. In mythical thought any genealogy also and at the same time makes explicit a structure; and there is no way to account for a structure other than to present it in the form of a genealogical tale. The myth of the ages is not, in any respect, an exception to this rule. (11)

In other words, in each of its parts Hesiod's text can be read in two ways: it can be interpreted from a diachronic point of view or from a synchronic one. For us today, who have the idea of a time that possesses its own structure and strictly chronological order, any temporal sequence that is modelled on a permanent structure hardly seems genuinely temporal. Thus, some of the expressions that I have used may have conveyed the impression that in my view there was no true time in Hesiod. But for Hesiod, who does not have an idea of time whose order obeys purely chronological rules, there is still authentic temporality.

Apart from this question, what is, in effect, Defradas's position? In the last part of his article he first contrasts with my views, and then himself adopts, the interpretation of Goldschmidt that my essay had taken as its starting point. (12) Defradas writes: 'Thus we may say that Hesiod used the myth of the races to explain the hierarchy of divine beings and to locate the human condition in the totality of beings.' And Defradas concludes: 'In trying to explain the existing structure of religious society - the hierarchy of the divine beings - he transposes the material into a theogonic myth, and in a sequence of different generations he rediscovers, set in a chronological order, the origins of the various divine families.' At the end of his critical study then, Defradas seems to me to accept, at least on this particular point, the type of interpretation that I had taken over from Victor Goldschmidt although, for my own part, I had attempted to analyse precisely the psychological implications with regard to the exact nature of time in Hesiod's thought.

2

When I remarked that the race of bronze is not presented as inferior but as 'in no way similar' to the race of silver which precedes it, was I attempting to prove that the myth does not convey an idea of decline in time? On the contrary, my view was that the sequence of the races made up a complete cycle of decline. Starting off with an age of gold where youth, justice, mutual friendship, and happiness reign, all in their pure state, we end with an age which is its opposite in every respect: it is entirely given over to old age, injustice, quarrelsomeness, and unhappiness:

> In the age of gold everything was order, justice and joy: this was the reign of pure dike. By the end of the cycle, in the latter part of the age of iron, everything will be abandoned to disorder, to violence and to death: this will be the reign of pure hubris. (13)

My claim was that this process of decline does not follow a regular or continuous course. So far as the heroes are concerned all interpretations agree: Hesiod expressly indicates that they are superior to the men who preceded them. It is thus perfectly clear that they interrupt the process of decline. It is sometimes suggested that this is evidence that the episode was inserted at a later date. I agree, and I also accept the hypothesis that the myth

must originally have been composed of four races of metal whose value no doubt followed a line of progressive decline. However, the primitive myth, as we can reconstruct it hypothetically, is one thing, while Hesiod's account, as he was obliged by his own preoccupations to rethink it and as it is presented, in a text which mentions the heroes alongside the races of metal, is quite another. Now, whatever the reasons that made Hesiod insert the heroes into the sequence of the races where he does, this insertion shows that in his eyes the myth no longer had the same meaning that we are tempted to give to the original version. It was not Hesiod's plan to describe a continuous process of decline in the human condition. There is no getting away from this dilemma: either Hesiod means to suggest something other than a simple, continuous decline, or else he openly contradicts himself. (14) Before accepting the second hypothesis, it seems only right to examine the text more closely in order to discover Hesiod's intention in the myth, how he characterized the various races in accordance with this intention, and in what order he arranged them so that their sequence, from the beginning through to the end of the cycle, would illustrate the moral that he himself draws from the story.

The 'Works and Days' opens with a surprising announcement. There is not just one Strife (Eris), but two contrasting ones, a good and a bad. In the 'Theogony' Hesiod classed Eris among the children of Night, that is, among the dark powers of Evil. (15) Among the sinister offspring of Nux, following immediately after Nemesis, Eris appeared in close association with Apate (Deceit), Philotes (Passionate Affection), and Geras (Old Age). Eris in her turn gave birth to a whole series of evils. Alongside Ponos (Labour), Lethe (Oblivion), Limos (Famine), and Algea (Pains), who begin the list, and Dusnomia (Anarchy) and Ate (Calamity) who close it, in the company of Horkos (Oath), who comes last of all, there were two symmetrical groups of powers. The first consisted of the four murderous powers of war, and the second of the three powers of slander and lying whose nefarious effects were felt not in warlike conflicts but rather in legal disputes and disagreements. (16)

The 'Works and Days' adopts this theology of evil but at the same time corrects it on various essential points. Alongside the evil Eris, which makes men fight each other in war or brings them into legal conflict in the agora, (17) we must recognize a different Eris, an Eris to be praised and not condemned (18) for it is profitable to men. (19) It is this, in fact, that incites them to work

and urges them to plough and plant in order to increase their livelihood. (20)

Hesiod then solemnly addresses his brother Perses, a farmer like himself, calling upon him to choose between these two kinds of Eris. He should renounce the wicked Eris (Ἔριζ κακόχαρτος) (21) for, by encouraging him to go to the *agora* on the lookout for quarrels and lawsuits in the hope of acquiring someone else's property unjustly, it distracts him from working on the land. The good Eris, on the other hand, which encourages him to labour for this, will procure for him a just ease with the blessing of the gods.

There follow accounts of two myths. The meaning of the first is crystal clear. The myth of Pandora, which is introduced with the word γάρ, provides a theological justification for the necessary presence of Eris in the world of men, and for the obligation to work which stems from it. The gods have, in fact, hidden from men their livelihood, βίος, that is, their food. (22) Men must toil on the land, plough it season after season, and fill it with seed in the autumn so that the cereal harvest may grow. It has not always been thus. Originally men lived without working, in such abundance that they had no reason to envy each other and no need to compete at work to be rich. But Prometheus tried to deceive Zeus and give men more than they had a right to possess. Despite the Titan's great cunning, his *apate* (23) finally backfired. Prometheus was caught in his own trap, and thereby swept the whole of humanity into misfortune. Zeus's revenge takes an ambiguous form, just as the figure of Eris is ambiguous in the world of men: Pandora is an evil, but a desirable evil, the counterpart and the reverse of a blessing. (24) Men seduced by her beauty will surround this plague, which has been sent to them, with love. (25) They cannot tolerate her but they could not do without her. She is their opposite and their companion. As a match to Prometheus's deceit, Pandora herself is a trick, a snare, a δόλος; (26) she is deceit incarnate in woman, *Apate* in the guise of *Philotes*. Aphrodite adorns her with an irresistible *charis*, Hermes endows her with a deceitful mind and a lying tongue, (27) and she introduces into the world a kind of fundamental ambiguity. She renders human life full of mixture and contrast. In effect it is not only that the powers of Night spread through the world with Pandora - the *algae* of disease, *ponos*, and *geras*, (28) evils which were unknown to humanity in its original purity - but furthermore every blessing now contains its counterpart of evil, its dark aspect, its shadow that follows it everywhere. From now

on abundance implies *ponos*, youth implies old age, dike implies *eris*. Similarly, man presupposes that opposite him there will be his double and his contrary, this 'race of women' (29) who are both accursed and at the same time cherished. If a man shuns the μέρμερα ἔργα γυναικῶν, (30) the works and wearisome labours that women bring with them, and decides never to marry, he has bread in abundance throughout his life. (31) But misfortune lies in wait for him from a different direction: he has no child to support him in his old age, and after his death all his possessions pass into the hands of his relatives. If on the other hand a man marries, even if he happens upon a good wife, his lot is no better: throughout his life 'evil comes to offset good'. (32) One problem arises here. Why does the bachelor, unlike the married man, not lack for bread? The answer is made clear in Hesiod's text and it explains the connection, so strongly emphasized in the myth, between the creation of the first woman, the introduction of evil, and the need for unceasing rivalry in agricultural labour. In several passages woman is presented as a famished belly swallowing up all the food that man exhausts himself in making the land produce. Even before she is married, woman is already casting an eye toward the granaries of her future husband who allows himself to be trapped by her seductiveness (*philotes*) and gulled by her deceitful chatter (*apate*). (33) Once she is married, the woman is a hunger (*limos*) at the heart of the house, installed there forever. She cannot tolerate poverty (*penia*) and ever seeks for more in her craving to be satisfied (κόρος), and so she urges her man on to labour, but stores up in her own belly the fruits of the toils of others. (34) Just as she is responsible for the other evils she has introduced into the world, so too she brings man the sadness of old age (*geras*). She exhausts the strength of the male, as do disease, anxiety, and toil; she 'dries him up without a fire'. (35) Because she is δειπνολόχης, always ready to sit down to table, always ready for feasting, however vigorous her husband may be, she delivers him over to a premature old age. (36) When we bear in mind that in his list of the Children of Night Hesiod did, in point of fact, associate *Apate*, *Philotes*, *Geras*, and *Eris* in the same group, we can understand how the myth of Pandora can be used to explain the presence of evil, in its various forms, in the life of men today. (37)

The first myth thus incorporates three lessons. First, it is impossible to deceive Zeus. No trick escapes him. Sooner or later, every injustice is found out and punished. (38) Second, Zeus's answer to the

trickery of Prometheus establishes the great law which is henceforth to be the rule among men: you cannot get something for nothing; everything must be paid for. The farmers are the first to feel the effects of this decision. Wheat no longer grows of its own accord. In order to have enough, men must pay for it personally, competing in work and wearing themselves out at the task. The peasant must accept this harsh law imposed upon him by Zeus as a punishment for the fault of Prometheus. If the farmer seeks to obtain abundance without committing any injustice for which he would have to atone later on, he must toil day after day in his field. In this way he will become dear to the immortal gods. His dike is realized through competition in work; it implies the good *eris*. Third, misfortunes never come singly. The powers of evil are related and they stick together. All the gifts of the earth must be paid for by the sweat of the farmer's brow. Pandora - all the gifts of the earth - appears not only as a goddess of the earth, as the power of fertility; she is also the woman who, with her twofold nature, symbolizes a human condition where evils henceforth have their place alongside blessings, and where the two are inextricably mingled together.

These opening remarks may seem rather long. But I believe them to be necessary. They make it clear that Hesiod's poem in no way lacks coherence. The systematic character of his work is revealed not only, as has been shown, in his methods of composition, (39) but also in the consistency of certain themes whose meaning operates on several levels, and which, being restated or redeveloped in many passages, form a network of very close correspondences among the various parts of the work which all complement and enrich one another. We are therefore dealing with a highly developed system of thought which does not have the rigour of a philosophical construction but which nevertheless possesses its own coherence and logic in the organization of its themes and mythical images. Hesiod declares that he is inspired by the muses. On this basis he considers himself, in a sense, the equal of kings. (40) His message does not come from a personal imagination; whatever his subject may be he pronounces the 'truth'. (41) From one generation of Greeks to the next this message was taken seriously. In order not to misunderstand it completely, we must read it in the same spirit, in the belief that every item, even a detail, has its own significance once it is included in the text.

The second myth is that of the races. It shares several features with the first. Like the first, it explains

the present state of humanity, whose life offers a mixture of blessings and evils. Also like the first, it presents the theme of *eris*, or rather of the double *eris*. In the age of gold not only are there no evils and men enjoy every blessing but furthermore there is no place for either of the two *erises*. In effect, in the first place, the men of gold do not make war (ἥσυχοι). Second, being free from jealousy of each other (ἐθελημοί), they are also unfamiliar with disputes and lawsuits. As Mazon has rightly pointed out, they know nothing of κόρος, insatiable desire, nor of ζῆλος, jealousy, and it is these which give rise to hubris. (42) Finally, neither do they need the good *eris*, the encouragement to toil, in order to eat. The earth spontaneously brings forth all its fruits in abundance, (43) without men having to till it. As opposed to this, Hesiod foresees at the end of the cycle of the races a life where nothing will remain but evil: 'And bitter sorrows will be left for mortal men and there will be no help against evil.' (44) The reason for this is that men will have entirely abandoned themselves to the wicked *eris* against which Hesiod was warning his farmer brother: 'ζῆλος κακόχαρτος, envy, foul-mouthed, delighting in evil, with scowling face, will go along with wretched men one and all.' (45) Jealous hatred will even insinuate itself between those who were formerly united by ties of mutual and disinterested affection: the friend will cease to be dear to his friend, the brother to his brother, the guest to his host, and parents to their children. The son will deny food to the father who fed him. (46)

The men among whom Hesiod and Perses live have, mercifully, not reached this stage as yet. True, they will not cease to know the fatigue and wretchedness sent to them by the gods, but at least they will find that: 'even these shall have some good mingled with their evils'. (47) Equally, the advice dispensed by the poet to his brother indicates that while the age of gold knew nothing of *eris*, whether good or bad, and while life at the end of the age of iron may be entirely given over to the wicked *eris*, Hesiod and Perses, for their part, live in a world which is characterized by the combined presence of the two contrasting forms of *eris* and by the possibility still open of choosing the good in preference to the bad.

This mythical theme is not only repeated and enriched from one story to the next: there is also a shift in emphasis. The emphasis is no longer laid, as before, upon the pair formed by the good and evil *eris*, but upon a different though still symmetrical pair, the opposed powers

of dike and hubris. The lesson of the myth of the races is, in fact, formulated by Hesiod with all the precision one could wish for. This lesson is addressed most directly to the farmer, Perses, and he is advised by Hesiod to take good notice of it. (48) The myth is followed by a kind of parenthesis, a short fable, directed, not this time at Perses, but at those who, quite unlike him, are endowed with a power which they might be tempted to abuse: the kings. (49) The moral which Perses, for his part, should derive from the tale is as follows: hearken to dike, do not allow hubris to grow strong. (50) Hubris is especially bad for humble folk, for the small farmer such as Perses; on the other hand, even for those who are great, like the kings, it may lead to disasters. (51) Perses should therefore prefer the other path which leads to dike. For in the end dike always triumphs over hubris.

Now that we have described the framework for the myth we must return to the text itself so as to establish the order for the sequence of the first four races. Even the most superficial reading immediately reveals that there is a difference between the transitions 1-2 and 3-4 on the one hand, and the transition 2-3 on the other. The relationship between the first and second races, as that between the third and fourth, is expressed by a comparative: πολὺ χειρότερον in the first case, and δικαίοτερον in the second. (52) What does this comparative mean? In both cases it expresses a difference in 'value', measured by more justice, or, on the contrary, by more excess. The race of silver is 'much inferior' to the race of gold in the sense that it is characterized by a hubris from which the race of gold is entirely free. The race of heroes is 'more just' than that of bronze which is pledged to hubris. Now, there is no such comparison made between the second and third races, the silver and the bronze. The difference between them is not expressed by a comparative which would place them higher or lower on the same scale of values. They are not described as being better or worse than each other, but as 'in no way similar' to each other. (53) Of course it is impossible to draw any definite conclusion from this point alone. My thesis was founded upon the comparison of this οὐδὲν ὁμοῖον with the earlier πολὺ χειρότερον and the later δικαίοτερον. What we must determine is whether this difference, which stands out even on a first reading, is indeed significant, and whether the feature we have thus remarked appears pertinent or not once it is placed in the overall context. It seems to me that there is a clear answer to this question. Whereas the race of gold is opposed to the race of silver

because the former has more dike and the latter more hubris, and the race of bronze is opposed to the heroes because it has more hubris while the heroes have more dike, the races of silver and of bronze are both equally defined by their hubris (ὕβριν ἀτάσθαλον in the case of the silver, and ὕβριες in the case of the bronze). (54) How can a race characterized by its hubris be called 'in no way similar' to another race which is also characterized by hubris? If it were a matter of degree it would have to be great enough to place the two races which are described as 'in no way similar' at opposite ends of a scale of values. Hesiod would have expressed this, as he has in the other cases, in a comparative such as 'much inferior' or 'much more just'. Not only does the text say nothing of the sort, but moreover the picture painted of the follies and impiety of the men of silver does not allow us to presume that Hesiod after all intended to present them as being much less advanced in hubris than their successors. Only one solution remains: the two races, which are equally committed to hubris, differ by the very nature of this hubris. In other words, while the first and the second races, and the third and the fourth are opposed as dike to hubris, the second and third races are contrasted as two opposed forms of hubris. A close reading of the text makes such an interpretation undeniable. Indeed, having said that the race of bronze is 'in no way similar' to that of silver, whose impious hubris provoked Zeus's punishment, Hesiod explains this radical difference by declaring: 'They [the men of bronze] loved the lamentable works of Ares and deeds of excess of hubris.' (55) One could not indicate more clearly that it is precisely the hubris of the men of bronze that is 'in no way similar' to that of the men of silver. The hubris of the men of bronze is shown in the works of Ares: this is the excess of warriors. The hubris of the men of silver is shown in the injustice from which they cannot refrain in their mutual relationships, and in their impiety with regard to the gods. Zeus makes this race disappear because it refuses to honour the Olympian gods with the worship that is their due. This excess is juridical and theological, in no way that of the warrior.

What follows in the text provides complementary evidence to support this interpretation. The race of heroes that succeeds the race of bronze is described as being not only more just, but δικαιότερον καὶ ἄρειον, at the same more just and also more courageous. (56) Their dike, like the hubris of the men of bronze, concerns their role as warriors. That is why I wrote: 'Instead of the hubris of the men of bronze bringing them closer to the

men of silver, it sets them further apart. Conversely, instead of the dike of the heroes setting them apart from the men of bronze, it in fact associates them as a pair of opposites.' (57) Thus the series of the first four races is not presented in the form of a regular and progressive sequence: 1-2-3-4, but rather as a sequence operating on two levels: first, 1-2; then, 3-4. Each pair comprising two antithetical aspects represents two races which are mutual counterparts, contrasted as dike and hubris. Thus we have: gold followed by silver = dike followed by hubris, but this dike and this hubris are both on the juridical-cum-theological plane. Next we have bronze followed by the heroes = hubris followed by dike, but on a plane which is 'in no way similar' to the first plane, in other words this dike and this hubris are those of warriors.

So what, now, of the twofold objections that Defradas made on this point that in all classifications of metals bronze is inferior to silver, and that the fate in the afterlife of the race of silver, which is worshipped by men, proves its superiority over the race of bronze which disappears into the anonymity of death? It seems to me that the interpretation I have defended is unaffected by both these criticisms. My point was that there was a distinct asymmetry between the two pairs I had distinguished:

> In the first pair the dominant value is dike, it is mentioned first; hubris is secondary, treated as its counterpart. In the second pair the opposite is true: the principal consideration is hubris. Thus while each of the two pairs has a just and an unjust aspect, it can be said that, taken together, they are themselves opposed to one another just as dike and hubris. This explains the difference between the first two races and the second two in their destinies. The men of gold and the men of silver are both promoted, in the strict sense of the word: from being perishable men they become daemons. As in their existence on earth, so too in the afterlife, the relationship that links them is one of opposition. The men of gold become epichthonian daemons and the men of silver hypochthonian daemons, and men do honour to both of them. The posthumous fate of the races of bronze and of the heroes is quite different. Neither, as a race, is promoted. The men of bronze's destiny cannot be called a 'promotion' for it is in no way exceptional. Having died in battle they become the anonymous dead in Hades. (58)

In other words, the sequence of the four races, grouped

into two pairs, one extreme of which represents dike and the other hubris, reveals a shift at the point of the change from the second to the third race, since this is not a move from dike to hubris nor is it the reverse: it is, instead, a move from one kind of hubris to another. What is the significance of this shift? The races of gold and silver are pledged to a function which, for Hesiod, is rightfully the business of kings: the exercise of justice in both its aspects, first, in the mutual relationships between men, and, second, in the relationships between men and the gods. In carrying out this task the first race conforms to dike, while the second neglects it utterly. The race of bronze and the race of heroes are both exclusively pledged to war: they live and die fighting. The men of both these races are warriors; but the men of bronze know only war - they are unconcerned with justice. The heroes, on the other hand, recognize the superior worth of dike even in warfare. Now, for Hesiod, the royal function on the one hand with its judiciary activity, and the warrior function on the other with its military activity, do not operate on the same plane. The warrior function should be subordinate to the royal function, for it is the nature of the warrior to obey his king. The way that I explained this subordination was as follows:

> There is a difference of value as well as of function between the lance, a military attribute, and the sceptre, the symbol of royalty. Normally the lance is subordinate to the sceptre. When this hierarchy is no longer respected the lance comes to express hubris just as the sceptre expresses dike. Hubris, for the warrior, consists in wishing to recognize nothing but the lance, and in devoting oneself entirely to it. (59)

This, precisely, is the case of the men of bronze.

If they are then indeed inferior to the men of silver, this inferiority is of a different nature from that which separates the silver from the gold, or the bronze from the heroes. It is not the inferiority which hubris confers upon one race as compared to another, more just, race which is associated with it in the same functional sphere, but, rather, in the hierarchy of functions it is the inferiority of the activities belonging to one pair of races as compared to those of another pair.

Is all this really overly subtle, as is claimed by Defradas, who, by the way, does not appear to have fully understood what we were saying? The real problem is to determine whether the subtlety is actually present in Hesiod's text. Historians of religion have taught us to find a remarkable wealth and complexity of thought in

myths whose archaic nature seemed to imply a primitive simplicity.

At any rate, it will be noted that one of the features which Defradas can legitimately invoke to prove the inferiority of the men of bronze as compared to the men of silver (that is, the inferiority of their status in the afterlife) is equally the case for the heroes. Once the races of gold and silver have disappeared, they become the objects of worship. Mortals pay royal honour βασιλήιον γέρας to the men of gold who intervene directly in their lives as guardians and dispensers of wealth; and they still pay a τιμή (60) to the men of silver even though these are inferior. No such honour is due to the men of bronze, but then nor is it to the heroes. The former, who perish in battles in which they all slay one another, have a fate in the afterlife which is in no way exceptional: they depart for Hades, leaving no name behind them, in other words, death takes them over. (61) The overwhelming majority of the heroes, who also perish 'in grim war and dread battle', (62) share this common fate: we are told that death enveloped them. (63) Only a few privileged individuals are granted an exceptional destiny: these are transported by Zeus to the ends of the earth, far from men, δίχ' ἀνθρώπων, and in the Island of the Blessed they lead an existence free from all care. (64) But in Hesiod's text even this minority of the elect, unlike the two first races, are not revered or worshipped by men. E. Rohde is quite correct on this point when he writes:

> Hesiod says nothing of any influence upon this world exerted by the souls of the Translated in the Islands of the Blessed such as is attributed to the daemons of the Golden race, nor of any religious worship, which would be implied by such influence if it existed, such as the underworld spirit of the Silver Age receive. All relations with this world are broken off, for any inaction on their part which affects it would completely contradict the whole conception of this blessed separation. (65)

How are these features of Hesiod's account to be explained? We must recognize that the status in the afterlife, at least of those heroes who are swallowed up by death and not miraculously spirited away by Zeus to the Island of the Blessed, is considerably inferior to that of the men of silver, who are, as underworld spirits, honoured with a *timé*. Yet the heroes are much more just than the men of silver, who are pledged to an extreme degree of hubris. It must be, then, that the inferiority indicated by their lower status in the afterlife is in no way connected with an excess of hubris and a greater degree of

corruption. And it would indeed be overly subtle to claim, at this point, despite the text, that it is not necessary to distinguish between the two different kinds of inferiority: the first, that which, within a framework of a single function, contrasts a race of hubris with a race of dike, and the second, that which distinguishes between the lower and the higher in the hierarchy of functions.

If we accept this distinction, which the text itself insists upon, the account makes sense. The men of gold, the royal ones, who are the incarnation of the justice of the ruler, obtain in the afterlife an honour which is described as 'royal'. The men of silver enjoy a lesser honour or, to be more precise, a 'secondary' honour as compared with the former, for they are inferior to the men of gold by reason of their hubris. Nevertheless they do receive an honour and it cannot be justified in their case by appropriate virtues and merits, for they have never possessed them, but only by the fact that they have the same function as the men of gold, the royal function, the highest in the hierarchy. (66) This close, functional link between the first two races is expressed in the complementary nature of their status after death. The just race become the epichthonian daemons, while the unjust race become the hypochthonian ones. Conversely, the vast majority of the heroes, despite the fact that they were just, suffer the same fate after death as the men of bronze, who, like them, were pledged to the role of warrior, which is subordinate to that of kingship. However, the inferiority of the unjust warriors as compared with the just warriors is also expressed by a difference in the afterlife. All the men of bronze, without exception, are lost amid the anonymous masses of the forgotten dead who make up the people of Hades, whereas a few of the heroes escape this anonymity of death. In the Island of the Blessed they lead a happy existence, and their name, celebrated by the poets, lives on forever in the memory of men. For all that, however, they are never revered nor worshipped, for this is a lot reserved for those who, during their lifetime, were 'royal' and who, even in the afterlife, retain connections with the royal function in that they watch over it to see that it is exercised justly. (67)

In my reply to Defradas's second objection I have deliberately restricted myself to as precise as possible an examination of the framework and the main articulation of the poem. But to decode the myth we must analyse its contents. In particular, we must draw up a list of the

distinctive features which Hesiod attributes to each race, and determine what they mean. These include: the symbolic value of each metal; the type of life; what activities are practised or unknown; the psychological and moral characteristics; the various types of youth, maturity, or old age; the form of death assigned to the individuals of each race; how each race is destroyed or becomes extinct; and their fate in the afterlife. At this point it is no longer sufficient to consider the account on its own. We must compare it with other passages from the 'Works' and the 'Theogony', and even consider some of Hesiod's mythical imagery in the light of data concerning Greek religious practices or well-documented legendary traditions. My earlier article was to a very large degree devoted to a study of this kind. I shall not repeat my thesis which I have already presented in detail. There is one remark that must, however, be made. The conclusions formed from the formal analysis summarized in the last few pages are so closely linked to the results which emerged from a study of the contents that it would be impossible to reject the former without undermining the latter. Indeed the acceptability of the interpretation that I propose draws its strength from the agreement between these two categories of evidence, which fit together exactly. Toward the end of my inquiry I was in a position to conclude: 'In sum, a detailed analysis of the myth in every way confirms and emphasized the pattern which appeared from the start to be emerging from the main structure of the text.' (68) Let us restrict our investigation to the sequence of the first four races. The framework which is revealed by a formal analysis is, essentially, filled out in the following manner. The various features which characterize the races of gold and silver show them to be closely associated and at the same time opposed, like two sides of a coin - one positive, the other negative. Neither of these two races is familiar with either war or work for the dike of the one and the hubris of the other are exclusively concerned with the functions of administering justice, the prerogative of kings. This antithetical pair consisting of the races of gold and silver reappears in the picture drawn by Hesiod of life under the reign of the good king, the king of justice, and under the reign of the king of hubris, the impious king who has no care for the dike of Zeus. In the 'Theogony', this same opposition separates Zeus, the ruler of order, from his rivals for sovereignty over the universe, the Titans, who are the rulers of disorder and hubris. The link between silver and gold is again revealed, as we have already remarked, by the obvious

symmetry between the epichthonian daemons - who enjoy royal honour, and who, in the name of Zeus, supervise the manner in which the kings dispense justice - and the hypochthonian daemons who also have a *timé*. There is, finally, one more feature: the men of gold live forever young, never knowing old age, (69) while the man of silver lives for a hundred years like a big baby, clinging to his mother's skirts. (70) But as soon as he has crossed the threshold to adolescence he commits a hundred and one follies and dies forthwith. Thus both the men of gold and the men of silver are young. But, for the former, youth means a lack of senility, while, for the latter, it means a lack of maturity, that is, pure childishness.

Between the men of bronze and the heroes we find the same similarity in their roles and the same contrasts. The mythical image of the good ruler was presented under different aspects in each of which he was opposed to the ruler of hubris (that is, in the past, in the form of the two successive races, gold and silver, and, in the present, in the guise of the good king and the bad king, while among the great gods they appeared as Zeus versus the Titans, and, among the supernatural powers other than the *theoi*, as epichthonians and hypochthonians). In just the same way the figure of the unjust warrior is contrasted to the just warrior: thus the giants fighting against Zeus are opposed by the hundred-armed, the faithful guards of Zeus who ensure that the Olympians are victorious in their struggle against the Titans; and finally the anonymous dead are contrasted to the glorious heroes. Whereas the men of gold and of silver appear as young men, the warriors - the men of bronze and the heroes - seem to be equally unacquainted with the state of *pais* and that of *geron*. Right from the start they are portrayed as adults, mature men, already past their adolescence, that *metron hèbès* which represented the very limit of existence for the race of silver.

It is, of course, perfectly possible to reject this interpretation as a whole. Defradas is afraid that it oversimplifies a highly complex historical reality. But it seems that one might well, on the contrary, attack it as being too complex since, to be able to understand the order in the sequence of races, it introduces not just a simple linear pattern, but a progress which follows alternate phases and which suggests on the one hand a coupling of the races into pairs sharing the same function, and on the other the presence, at all levels of the account, of the theme of opposition between dike and hubris. In any event, in order to undermine my thesis, any refutation would have to bear upon the essentials. It would be

necessary to demonstrate that neither the first two races nor the next two seem in any way to be specially linked together either in the formal sequences of the poem or in the picture painted of the races' lives, deaths, or fates in the afterlife. In my view, this demonstration has not yet been made.

3

Let us pass to the third objection. According to Defradas, a need for symmetry induced me, following Dumézil, to discover a sixth race which could act as a counterpart to the race of iron to which Hesiod belongs: 'Only a superficial reading of Hesiod's text could give rise to such a misinterpretation, which would be demolished by a serious study.' (71) This is quite true. Indeed it is so patently true that no one would be tempted to adopt such an interpretation, and only a superficial reading of my text could result in it being attributed to me. What I wrote was: '... the fifth race does seem to present a problem. It introduces a new dimension, a third category of reality which, unlike the other two, does not seem to be divisible into antithetical aspects, but appears to be presented as a single race.' (72) If I had discovered a sixth race where Hesiod states most clearly that there are but five, I would not have posed this as a problem. I do *not* then speak of a sixth race; I claim that, unlike the others, the fifth race is not indivisible and that it comprises two successive types of human existence which are strictly opposed to each other, the one still having a place for dike, while the other knows only hubris. It is because it is double and has two aspects that the episode of the age of iron is able to complete the overall structure of the myth. (73) Sometimes I call this second aspect of the age of iron 'the latter part of the age of iron'; (74) sometimes 'the age of iron in its decline'; (75) never do I call it 'a sixth race'.

But this is not the most crucial point. Is it true that in the case of the age of iron there are two different types of human existence which must be distinguished? Let us note, first of all, that Hesiod does not and could not speak of the race of iron in the same terms as the other races. The first four races belong to the past; they have disappeared, so when Hesiod speaks of them he is speaking in the past tense, of what is 'over and done with'. In contrast, where the age of iron is concerned, Hesiod is no longer turned towards the past. He now

expresses himself in the *future tense*. He tells of what humanity can henceforth expect. To Perses, whom he is addressing, he reveals a future, a part of which is close at hand, and, as it were, 'already there' (I refer to the νυν, the 'now' of line 176). But the other part of this future is still a long way off and most certainly neither Hesiod nor Perses will ever know it. It will come when all that is left for Zeus to do is to destroy in its turn this race whose men will be born with their hair already white. This moment which can be seen silhouetted on the horizon, takes on the character of an apocalypse, an end to time. No other race was described in such terms, as capable of undergoing a change in its original conditions of existence during its own span of time, that is to say, none was described as having undergone any decline in the course of its own age. (76) Each past race remains unchanged from beginning to end, lacking any true temporal character. It is, however, this very temporal character that is typical of the fate of the race of iron, precisely because this destiny has not yet been accomplished but is in the process of being lived out in a present which constantly opens on to the future. Hesiod says that it is *now* the race of iron. Men *will not cease* to be tormented by all the evils the gods send them. And he adds: 'But notwithstanding ... these [men] shall have some good mingled with their evils.' (77) It is not a remark which is in any way surprising to us, since the life that Hesiod and Perses must experience in all its hardship is indeed this life of mixtures and contrasts symbolized, in the preceding part of the poem, by Pandora.

This νῦν where good is still mixed with evil is contrasted, in lines 180 to 201, with the terrifying prospect of a much more sinister future which will be entirely given over to the nocturnal powers of evil. The conclusion to this last paragraph is a clear echo of the conclusion to the earlier passage. Line 179 runs: 'these [the men of now] shall have some good mingled with their evils', to which lines 200-1 correspond: 'Bitter sorrows will be left for mortal men, and there will be no help against evil.'

In the one case we have a mixture of blessings and evils; in the other, nothing but evils. Even if this were the only difference between the existing state and the future state of the race of iron, it would be enough to make a distinction between two contrasted types of existence within the race, for the fundamental meaning of the whole myth depends precisely on this point. Let us bear in mind that the men of the race of gold are κακῶν ἔκτοσθεν ἁπάντων, far removed from every evil; every

blessing is theirs, ἔσθλὰ δὲ πάντα τοῖσιν ἔην. The men of gold have no evils and all the blessings. The men among whom Hesiod and Perses live have both blessings and evils. The men of the future will have no blessings and all the evils.

But this is not the only feature that puts the age of iron (that is, present-day life which must be explained and whose deeper significance must be revealed to Perses) as if it were half-way between the race of gold, at the beginning of the cycle, and the race of iron in its decline, at the close. Just as they know nothing of πόνος and οἰζὺς (two of the children of Night), the men of gold are unacquainted with old age, γῆρας. They are born young and remain forever as they have always been (ὁμοῖοι). (78) Hesiod lives in a world where men are born young and die old, with youth gradually changing into old age as a result of anxieties, toil, disease, and women. By the end of the age of iron nothing will remain except γῆρας: men will be born old, with their temples already white. (79) When we remember that each race is characterized by being identified with one of the ages of human life, we can see that the myth can be understood only if we give full weight to the opposition, indicated by Hesiod, between the two aspects of the age of iron.

The men of gold live, in all their justice, ἐθελημοῖ ἥσυχοι. (80) They are peaceful and are unacquainted with warlike encounters on the field of battle. They feel no jealousy and know nothing of quarrels or lawsuits with their train of perjury, slander, and deceit, which are the weapons of the legal *eris* that operates in the *agora*. As we have seen, by the end of the age of iron the evil *eris* will reign supreme. Neither dike nor oaths nor the gods will be feared or respected. Hubris alone will be honoured. (81) Human speech will take the form of lies, deceit, and perjury. (82) Jealousy (ζῆλος), just as evil-minded as the wicked *eris* (κακόχαρτος), will have supreme power over all human beings. This jealousy is not the good *eris* which makes potter jealous of potter and carpenter jealous of carpenter. It does not stimulate a man to do better than his rival, to work harder in order to produce a better result. This jealousy seeks, through fraud, deceit, and perjury, to misappropriate the fruits of a rival's labour. (83)

Where does Hesiod's own world stand on this point? Is there as clear a break between the existing and the future states of the race of iron as in the two preceding cases? We have already noted that the poet's preface to his brother, encouraging him to choose the good *eris* and renounce the bad, proves clearly enough that both of these

are present in their peasant life. But this is not all. Hesiod warns that when jealousy has entirely filled men's hearts there will be no more room for feelings of friendship - for the *philia* which normally binds together host and guest, friend and friend, brother and brother, children and parents. And the poet adds: ὡς τὸ πάρος περ, as was the case before. (84) This 'before' which makes room for *philia* alongside *eris*, is precisely the νῦν, the 'now' of the present life. (85) In Hesiod's world it is true that there are wars, evil quarrels, and fraudulent lawsuits like those that Perses tries to bring against Hesiod himself, but in addition to these, ties of mutual friendship and help exist within the family, between neighbours, and between friends. Perses himself has had experience of this: when he turned to his brother in an hour of need, Hesiod did not begrudge him assistance. (86) For the rest, even if it does happen that kings pronounce crooked sentences, they can also administer justice correctly. In that case, throughout the land blessings triumph over evils; there is no war (πόλεμος), no hunger (λιμός), no disaster (ἄτη). (87) The people feast happily upon the fruits of the fields they have worked; women present their husbands with children 'who resemble their fathers' whereas we are told that by the end of the age of iron sons will no longer even 'resemble their fathers'. (88) Thus a careful reading of the text seems indeed to confirm that the race of iron has two aspects which are carefully distinguished and even contrasted by Hesiod. The race of iron describes, in the first instance, contemporary life, the same life which was the subject of the myth of Pandora, and to which relates all the religious, moral, practical, and agricultural advice that the 'Works and Days' dispenses so generously. This age of iron has a special place in the myth since the account is, in effect, aimed at explaining its ambiguous nature, its 'mixed' (89) state, and at justifying the choice in favour of dike and work that Hesiod recommends to his brother. In the second instance the age of iron refers not to contemporary life as the poet describes it, but rather to a life yet to come, as his inspired wisdom allows him to foresee it. This terrifying prediction of a world entirely given over to hubris is at the same time a solemn warning to Perses: if he and those like him continue to behave as they do, ignoring dike and despising work, then the world will most certainly culminate in this extreme state of misfortune. Thus the prophetic vision of the poet has a double purpose. It indicates the ending to a cycle of ages which is to have an end just as it had a beginning; it completes the circle which has led humanity

from dike to hubris, from happiness to misfortune, from youth to old age, from *philia* to the wicked *eris*. But, furthermore, it makes an appeal to Perses and to those who are wicked: there is still time; let them understand the lesson, let them agree to listen to dike, and not allow hubris to grow any more, and then perhaps the nefarious powers of Night will not be able to invade the whole of existence; there could still be a place for happiness among poor human beings.

4

The analyses just undertaken have already replied to the fourth objection put forward by Defradas, at least with respect to the following point: the sequence of the races does indeed form a complete cycle of decline which Hesiod envisages as a whole, with its beginning and its end standing in strict opposition to each other. But one further point must be made. The men of the race of gold live 'like gods' (l. 112), in a state which is not as yet truly 'separate' from the blessedness of the immortals, and in which the original kinship between the divine race and the human is reflected. (90) Similarly, in the 'Theogony', the dispute which sets gods and men against each other at Mecone over the sharing out of the sacrificial beast (a confrontation whose issue Prometheus, by his trickery, decides in favour of men) suggests that even if gods and men did not live together with complete success, at least they frequently met and had close dealings with one another. (91) In contrast to this, at the end of the cycle of the races we have a hopeless picture of a human world which is entirely cut off from the world of the gods. Aidos and Nemesis who used to inspire men with a respect for the gods and who offered them a chance of entering into communication with them, abandon the earth forever, departing for Olympus. They leave behind a humanity which is given over to Evil and Night, and go off to rejoin the shining race of the blessed. (92)

It is because Hesiod's poem thus encompasses the entire destiny of the human race, as one would tell the story of the cycle of the life of an individual from his earliest youth to the end of his old age, that I was led to look more closely at the meaning of line 175. Hesiod regrets that 'he did not die earlier, or was not born later'. 'Die earlier' is easy to understand: he might have been born in the youth of the golden age. But 'born later' raises a problem. At the point where he is situated in the sequence of the races the future offers only the

gloomiest of prospects. Hesiod cannot be wishing to be born into a world which, according to him, will know nothing but old age, misfortune, and injustice. He must therefore imagine that once the time has come when Zeus will have annihilated this race of iron in its turn, that is to say, once what we have seen to be a complete cycle is over, it will be possible for a new race of men to be born, and had the poet been more fortunate he might have been among them. We have no way of telling how Hesiod envisages the coming of this race, for he gives us no other information about it. For this reason, any remarks made on this subject must perforce be of a hypothetical nature. However, it does not seem illegitimate to suppose that, given that Hesiod conceived the sequence of the races as a cycle, he must have imagined what followed, since something does follow, on a cyclical model as well. Just as generations of men succeed one another within one race, and as the races succeed one another within the total cycle of the ages, so the cycles might well succeed one another. This renewing of the cycle, after the destruction that Hesiod predicts for the race of iron at the final point in the decline, has of course nothing to do with the 'eternal return' of the Orphic doctrines, nor with their eschatology, except possibly for Defradas. (93) Quite simply, Hesiod conceives the course of the human races to be like that of the seasons. Hesiod's calendar has a cyclical character. All the temporal landmarks that he mentions are regularly repeated each year. On the other hand he never gives us any indication of a way of dating the years which would make it possible to distinguish one year from another and arrange them in a linear sequence (as, for instance, when they were later distinguished by the names of their civil or religious magistrates). It could be said, to borrow an expression of Maurice Halbwachs's, that the social framework of the notion of time is still essentially cyclical in Hesiod's peasant world, as in other archaic societies. (94) Time is composed of a sequence of seasons clearly separated from one another by 'breaks' marked by particular temporal points which serve as landmarks within an annual calendar. (95) This sequence of seasons, marked out from one another, forms a complete cycle, which, having reached its final point, begins again. The influence of this cyclical image of time is equally marked in Homer: when he evokes the destiny of 'perishable' men he is not expressing the nostalgia of the individual faced with the inexorable flight of time, as the lyric poets were later to do. He is comparing the sequence of human generations with the periodic return of the seasons: (96) 'The wind

scatters the leaves, each in turn, over the ground, and the lush forest gives them birth when the season of spring arrives. So it is with men: one generation is born at the instant another fades away.' (97)

The hypothesis of the renewal of the cycle of ages, suggested by line 175, is supported by the text of the 'Politicus' where Plato is playfully evoking the old myths about the days gone by and states that the human generations succeed one another in a cycle and that once this cycle has reached its conclusion it begins all over again, this time in the opposite direction. (98) Now the allusions to Hesiod in this passage seem quite obvious. Thus the state of humanity under Kronos is described as follows: '... they had fruits in plenty from the trees and other plants, which the earth furnished them of its own accord, without help from agriculture (αὐτομάτη ἀναδιδούσης τῆς γῆς; cf. 'Works' 117-18, ἄρουρα αὐτομάτη).' (99) What, according to Plato, happens at the end of the cycle at the moment when the universe begins to move in the opposite direction?: 'Every mortal creature stopped growing older in appearance and then reversed its growth and became, as it were, younger and more tender; the hoary locks of the old men grew dark, and bearded cheeks grew smooth again as their possessors reverted to their earlier ages.' (100) It is hard not to detect in the Platonic humour of this passage an echo of Hesiod's description of the progressive ageing of the human races.

True, one can, with Mazon, choose not to take line 175 literally, and interpret it as being 'an expression similar to those familiar antitheses which are so frequent with the Greeks and are used to convey the idea of anyone or anything.' (101) However, this antithesis, involving the past and the future, appears in Hesiod in too precise a context for one to proceed without further ado to associate it with ready-made expressions such as are to be found in Sophocles 'Antigone' 1108: ἴτ' ἴτ, ὀπάονες οἵ τ' ὄντες οἵ τ' ἀπόντες, 'go, go, servants, those of you that are there and those that aren't', or in 'Electra' 305-6. To show that there was indeed a 'chronology' in the sequence of the races Defradas referred to the word μετόπισθεν in line 127, and to ἔπειτα in line 174. He might have remarked that of the seven temporal adverbs contained in the hundred or so lines of the text, (102) four of these are concentrated precisely between lines 174 and 176: there is a first ἔπειτα in line 174, the two πρόσθεν and ἔπειτα in line 175, and the νῦν at the beginning of line 176. The sense of the text is thus as follows: 'Would to the gods that it were not *afterwards* [that is, *after* the race of heroes] that I myself had to

live amid the men of the fifth race, but that I had been either dead *earlier*, or born *later*; *now* truly it is the age of iron.' It would seem that if ever there was a passage where it was necessary to give full value to every expression of time, this is it.

At the close of his critical study, just before the conclusion, Defradas surveys the ruins that he believes he has brought down around him, and feels a certain sadness: 'It is hard to disappoint those who believed they had uncovered a coherent and solid explanation, by showing them that it rests upon a superficial reading of the texts or upon a systematization which falsifies the complexity of the real facts.' And, 'so as not to leave the reader on this negative note', he refers to the study made by Goldschmidt which we have already mentioned, and adopts his conclusions. (103) This is the very study which provided the starting point for my own researches. I borrowed Goldschmidt's principle of interpretation: he emphasized the tendency towards *systematization* in Hesiod's text and detected in it the establishment of a correspondence between, on the one hand, a myth of origins, and, on the other, a structural division determining the hierarchy of the supernatural powers other than the *theoi*, that is to say, the daemons, the heroes, and the dead. (104) Goldschmidt did not undertake a complete analysis of the myth of races. Such was not the purpose of his article for he was only incidentally concerned with Hesiod. I was therefore anxious to take up the inquiry anew, this time for its own sake, along the lines indicated, and attempted to find an answer to the questions that Goldschmidt had not tackled, and to the difficulties that his interpretation had left unsolved. I thought that I had solved the problem, not by abandoning the schema but by developing it even further, integrating it in a more extensive and more complex interpretation which, while still respecting the systematic nature of the myth quite rightly emphasized by Goldschmidt, might make it possible to explain every detail in it.

Goldschmidt was not unaware of the difficulties presented by the text if one sees in it a *direct* link, *without any intermediaries*, between on the one hand a myth of origins in which the metals have a regularly declining value, and on the other a classification of the divine beings. First, the race of heroes, whose presence is indispensable for the classification of the divine beings, distorts the structure of the account. From the point of view of the sequence of races it appears to be an episode tacked on afterwards, not integrated into the whole.

Second, the race of silver raises problems in every respect. In the first instance, if Hesiod was really using a traditional legend which presented the sequence of the races in an order of progressive decline, why did he present the picture of the race of silver that he did? Given that he places them immediately after the race of gold at the top of the scale of metals, why does he give them the negative characteristic of 'inordinate hubris'? He was not obliged to do so. For there are two possibilities: either he is conforming to tradition, and in that case the tradition itself did not follow the pattern of a regular progress of decline; or else, as I personally believe to be the case, Hesiod modified the tradition on this point, and invented the features which characterize the race of silver in his account. He had his own reasons for doing this, and we must attempt to see what they were.

The difficulty is aggravated when we pass from the myth of origins to the structural aspect. We may suppose that Hesiod associated these two points of view, seeking to show that the status in the afterlife of the various races and their promotion to the rank of divine powers (other than *theoi*) are the reward for the kind of life they led on earth. Goldschmidt points out:

> In the case of the race of silver this is not without difficulties. They are buried under the earth by a Zeus angered by their refusal to pay homage to the Olympian gods. And yet the members of even this impious race are revered. (105)

There were two reasons for Hesiod to depict the race of silver in favourable terms against one for him to do the contrary: in the first place because they follow immediately after the race of gold; and in the second, to justify men's worship of them. The question cannot be avoided: why did Hesiod do the exact reverse?

There is an even more serious problem. The classification of divine beings, for which the myth of the races is supposed to provide an etiology, includes (apart from the *theoi* with whom the myth is not concerned) the following categories: daemons, heroes, and the dead. We should note straight away that the normal order is not respected and that the dead appear in the myth before the heroes do. It is something that does not occur in any other of the texts which are concerned with this series: the heroes are occasionally classed before the daemons, but never after the dead. (106) But most important is the fact that there is a sequence of *four* races to account for *three categories* of supernatural beings. The men of gold become, after their death, δαίμονες described as

ἐπιχθόνιοι; the men of bronze, called the νώνυμνοι, people the mildewy abode of Hades (they are the ordinary dead); the heroes remain what they already are - heroes. What then is the position of the men of silver who are described as μάκαρες ὑποχθόνιοι? Either they form a category on their own, a fourth kind of divine beings, which would not fit into the framework of the traditional classification and whose nature is difficult to imagine, or else they are associated with the men of gold, and, as hypochthonians which are the counterpart to the epichthonians, make up the category of daemons with them. This is the solution that, after Rohde, Goldschmidt himself, followed by Defradas, had good reason to adopt. Goldschmidt writes: 'We may accept the fact that Hesiod split the class of daemons into two in order to accommodate, in this way, the race of silver within the system.' (107) But who can disregard the whole chain of consequences that this remark entails? For the sake of the system's coherence, that is, so that both the genetic and the structural perspectives should be unified, Hesiod was obliged to link the first two races extremely closely, to conceive of them as a pair, and moreover an inseparable pair, since they complete each other to form the single category of the daemons. It is therefore understandable that he should have conferred on the men of silver the features which, in every detail of the picture he draws of their life, allow them to appear as the antithesis of the men of gold. This also provides us with the answer to the question we were asking just now, namely: why do not the men of silver, whose place in the scale of metals is immediately below the men of gold, appear as not much inferior to the men of gold and considerably superior to the races that follow them? It is because, in fact, the men of silver are the antitheses of the men of gold. They present an inverted picture of the life of that race, a picture where inordinate hubris has taken the place of dike.

These remarks apply to the next two races as they do to the first two, for the reasons already given. If it is true that each of tehse two races accounts for a particular category of the powers in the afterlife (the inhabitants of Hades on the one hand, and the inhabitants of the Island of the Blessed on the other), it is because for Hesiod there are two types of beings no longer in this life neither of which is the object of a *timé* as are the daemons. Neither in Homer nor in Hesiod do we find evidence of a cult of the heroes comparable to that which appears to have been organized within the framework of the official state religion. (108) The heroes are simply *dead* who, instead of joining the anonymous crowd in Hades,

have been transported away, far from men, to the Island of the Blessed. Furthermore, not all those who belong to the race of heroes go to the Island of the Blessed. The vast majority of them join the men of bronze in Hades. On this point it is interesting to compare lines 154-5, where we are told of the men of bronze that θάνατος εἷλε μέλας: black death took them, in line 146, where we are told of the majority of the heroes (τοὺς μέν as opposed to τοῖς δέ in line 179) θανάτου τέλος ἀμφεκάλυψε, death which completes everything enveloped them.

Thus, if we accept Goldschmidt's principle of interpretation and agree with him that Hesiod intended to combine a myth of origins and a structural division, we must complete Goldschmidt's analysis by pointing out that in order to establish a correspondence between one series with four terms (the four races) and one with three (the three categories of supernatural powers other than the *theoi*), the myth had to be recast in a different form, elaborated and given a new pattern. If we bear in mind all the details of the account and consistently place these details in the context of the myth as a whole, and the myth in turn in the context of the whole of Hesiod's work, we can discern the principles upon which this reorganization took place. In the first place the races have been regrouped into pairs, and each pair has a precise meaning in terms of function. Second, each function which is thus split into two antithetical aspects expresses, on its own level, the opposition between dike and hubris which is the central theme and lesson of the myth. (109)

Thus, my interpretation amplifies that of Goldschmidt and does not contradict it. It does not simplify it; rather it makes it more complex in order to account for a whole series of elements that Goldschmidt had not included in his inquiry. To oppose his thesis to mine is only possible on a very cursory reading of both.

What this overlong discussion comes down to in the end is the problem of how Hesiod should be read. Should we follow Goldschmidt, who was 'struck by the tendency toward *systemization*' in Hesiod's text, or Defradas for whom, on the contrary, Hesiod 'had no precise system', and felt no compunction about interrupting the process of decline in order to find a place for his heroes, and for whom Hesiod was an 'empiricist' who envisaged a future less gloomy than the past? (110) In the former case the task of the interpreter is considered to be to raise himself, as it were, to the level of a work which is rich, complex, systematic, and possesses its own kind of coherence, which must be discovered. No short-cuts must be taken. One must work at the interpretation, going back to it day

after day, taking account of all the details and integrating them in the whole. If there are difficulties in the deciphering of the text the reason will lie in a lack of understanding in the reader rather than in contradictions or carelessness on the part of the author. In the latter case, Hesiod's text is, as it were, levelled down to the interpreter.

NOTES

1 'Revue de philologie' (1966), 247-76.
2 J. Defradas, Le mythe hésiodique des races. Essai de mise au point, 'L'Information littéraire' (1965), 4, 152-6; Jean-Pierre Vernant, Le mythe hésiodique des races. Essai d'analyse structurale, 'Revue de l'histoire des religions' (1960), 21-54. See Chapter 1 above.
3 For instance, I wrote: 'Thus each pair of ages is defined not only by its position in the sequence (the first two, the next two, and the last two), but also by a specific temporal quality which is closely linked to the type of activity with which it is associated' (see above, p. 20).
4 Vernant, 'Entretiens sur les notions de genèse et de structure', Paris, 1965, 121.
5 Vernant, Aspects mythiques de la mémoire en Grèce, 'Journal de Psychologie' (1959), 1-29; see above, pp. 5-6.
6 Ibid., pp. 5-6; cf. also note 12.
7 J. de Romilly, 'Histoire et raison chez Thucydide' (Paris, 1956).
8 Thucydide, qui apporte volontiers des précisions numériques et topographiques quand elles peuvent éclairer son récit, ne donne jamais une date.... La succession des faits est logique chez Thucydide. Tout, dans son histoire, est construction et même construction rigoureuse.... Le temps de Thucydide n'est pas chronologique: c'est, si l'on peut dire ainsi, un temps logique (I. Meyerson, Le temps, la memoire, l'histoire, 'Journal de Psychologie', special number entitled 'La construction du temps humain' (1956), 340.
9 See above, p. 9.
10 And not, as Defradas says, a chronological schema and a structural schema.
11 See above, p. 5.
12 Defradas, Le mythe hésiodique, 156; Victor Goldschmidt, Theologia, 'Revue des études grecques' (1950), 20-42.

13 See above, p. 8.
14 Cf. Erwin Rohde, 'Psyche' (8th edn, New York, 1966), 69-70.
15 Hesiod 'Theogony' 211-33.
16 Cf. Clémence Rannoux, 'La Nuit et les enfants de la nuit dans la tradition grecque' (Paris, 1959), 66 ff.
17 In line 14 of 'Works and Days' Hesiod mentions the *eris* which makes πόλεμον καὶ δῆριν, war and fighting, increase. The meaning of δῆρις is defined in the passage that follows where the poet exhorts his brother to give up stirring up νείκεα καὶ δῆριν, quarrels and disagreements, in the *agora* in order to seize someone else's possessions (l. 33); cf. l. 30; νεικέων τ' ἀγορέων, and l. 29; νείκεα... ἀγορῆς. Perses, a poor wretch, δειλός (214), cannot hope to acquire the possessions of others in the form of war booty; since he is incapable of using the *eris* of his arm, he must fall back on the *eris* of his tongue: 'Wealth should not be seized; god-given wealth is much better. One can steal great wealth by violence, with the strength of one's arm; one can also steal it through one's tongue as often happens when gain deceives men's sense...' (320-4).
18 Hesiod 'Works' 13 and 12.
19 Ibid. 19.
20 Ibid. 21-2.
21 Ibid. 28.
22 Ibid. 42.
23 Cf. Hesiod 'Works' 48; 'Theogony' 537 and 565.
24 Cf. 'Hesiod 'Theogony' 585; καλὸν κακὸν ἀντ' ἀγαθοῖο; and 602, ἕτερον δὲ πόρεν κακὸν ἀντ' ἀγαθοῖο.
25 Hesiod 'Works' 57-8, κακόν, ᾧ κεν ἅπαντες τερπωνται κατὰ θυμὸν ἑὸν κακὸν ἀμφαγαπῶντε .
26 δόλος and δολίη τέχνη of Prometheus, Hesiod 'Theogony' 540, 547, 550, 551, 555, 560, 562; Pandora as δόλος, Hesiod 'Theogony' 589 and 'Works' 83.
27 Hesiod 'Works' 65-8, 73-8.
28 Ibid. 90 ff. We are aware that in line 92 the γῆρας of the text is usually corrected to κῆρας. The correction is not necessary. The sense is perfectly clear. It is the sense specified in line 93, which is an interpolation borrowed from the 'Odyssey': 'For in poverty men grow old quickly.' It should not be forgotten that Geras appears, among the other powers of evil, as one of the children of Night.
29 Hesiod 'Theogony' 591.
30 Ibid. 603.
31 Ibid. 605: ὅ γ' ου βιότου ἐπιδευὴς ζώει.
32 Ibid. 609-10: τῷ δέ τ' ἀπ' αἰῶνος κακὸν ἐσθλῷ

ἀντιφερίζει ἔμμεναι. A comparison with Hesiod 'Works' 179 will show how Pandora can symbolize life in the age of iron.

33 Hesiod 'Works' 373-5: τεὴν διφῶσα καλιήν. Note the theme of *Apate* and *Peitho*.

34 Hesiod 'Theogony' 593-602.

35 Hesiod 'Works' 705: εὖει ἄτερ δαλοῖο. For Hesiod, the young man in the flowering of his youth is full of sap. Old age is a progressive process of drying up. The role played by women, in this desiccation of old age, can be better understood,if we bear in mind the information given in lines 586-7: in the heart of the dry season, when Sirius burns men's heads and knees (γούνατα), women are μαχλόταται, more lascivious, and men are ἀφαυρότατοι, weaker. In contrast, during the autumn rains, when the sun's heat slackens and Sirius passes only a little while by day over the heads of men, men's bodies become πολλὸν ἐλαφρότερος, much more vigorous (414-16).

36 Ibid. 705: ὠμῷ γήραι δῶκεν.

37 Thus there appears to be a symmetry between the theme of Pandora in Hesiod and that of Helen as presented in the *Cypria* and as it later reappears particularly in the tragedians. The series of the Children of Night continues, after *Nemesis*, with *Apate*, *Philotes*, *Geras*, *Eris*. In the *Cypria*, in order to make men expiate their impiety and to put an end to their teeming reproduction, *Nemesis*, or divine vengeance, brings forth this figure of the 'femme fatale' who is a mixture of *Apate* and *Philotes*, and whose arrival provokes *Eris*, war, and death. According to Athaneus 334 c-d (= frg. 7, Allen), the author of the *Cypria* wrote that *Nemesis*, having been united in *philotes* with Zeus, gave birth to Helen θαῦμα βροτοῖσι (cf. the same expression in the 'Theogony' 575, 584, and 588 is used for Pandora). But this 'marvel' is at the same time a *dolos*, a trap. (The aspect of *Apate* is reinforced in the figure of Helen by the theme of the double, the εἴδωλον, which can be compared to the 'Theogony' 572 and 584, and 'Works' 62-3 and 71, where θαῦμα is associated with εἶδος and εἰκών. Seductive as she is, Helen is an *Eris* who brings about βουλὴ Διός. On Helen as *Eris*, cf. Aeschylus 'Agamemnon' 1468-74; Euripides 'Helen' 36; 'Electra' 1282; Zeus has sent to Ilium an *eidolon* of Helen so that *Eris* and *Phonos* should appear among mortals; 'Orestes' 1639-42: the gods have used this 'beautiful one', καλλίστευμα, to bring about conflict between the Greeks and the Phrygians; they have

caused many deaths in order to purge the world of the insolence, ὕβρισμα, of mortals whose fertility was filling it.

38 Ibid 105.

39 Cf. P. Walcot, The Problem of the Proemium of Hesiod's Theogony, 'Symbolae osloenses' 33 (1957), 37-47; The Composition of the Works and Days, 'Revue des études grecques' (1961), 1-19; cf. also in the 'Annuaire de l'École pratique des Hautes-Etudes', 6 (1962-3), 142 ff., the account of my lectures devoted to the composition of the proemium of the 'Theogony'.

40 Hesiod 'Theogony' 93 ff.

41 Ibid. 29 ff.

42 Hesiod 'Works' 118-19.

43 Cf. 117-18: αὐτομάτη, καρπὸν πολλόν τε καὶ ἄφθονον. The best commentary on this picture is provided by Plato at the beginning of the third book of the 'Laws' where he is describing the state of humanity after the flood, when neither iron nor bronze was yet being used (678d 1). Men are still few in number and take joy in each other's company (678c 5); they are fond of each other and look upon each other with affection, they do not have to vie with each other for food for there is no fear that there will not be enough (678d 9 ff.). Thus they are unacquainted with both discord, στάσις, and with war, πόλεμος (678d 6); they have a generous disposition: οὔτε γὰρ ὕβρις οὔτ' ἀδικία, ζῆλοί τε αὖ καὶ φθόνοι οὐκ ἐγγιγνονται (679c), for neither immoderation, nor injustice nor again jealousies nor rivalries arise.

44 Hesiod 'Works' 200-1.

45 Ibid. 195-6; cf. 28: Ἔρις κακόχαρτος.

46 Ibid. 183-5.

47 Ibid. 176-9.

48 Ibid. 107.

49 202: Νῦν δ' αἶνον βασιλεῦσι ἐρέω.

50 Ibid. 213: Ὦ Πέρση, σὺ δ' ἄκουε δίκης, μηδ' ὕβριν ὄφελλε.

51 Note the opposition, in ibid. 214, between δειλῷ βροτῷ (Perses) and ἐσθλός (the king, whom Hesiod was addressing in the previous short parenthesis).

52 Ibid. 127 and 158.

53 Ibid. 144.

54 Ibid. 134 and 146.

55 Ibid. 145-6.

56 Ibid. 158.

57 See above, p. 17.

58 See above, pp. 7-8.

59 See above, pp. 15-16.

60 Hesiod 'Works' 126 and 142.
61 Ibid. 154: νώνυμνοι θάνατος[...] εἶλε μέλας.
62 Ibid. 161.
63 Ibid. 166: Τοὺς μὲν θανάτου τέλος ἀμφεκάλυψε.
64 Ibid. 167: τοῖς δέ διχ' ἀνθρώπων βίοτον καὶ ἤθε' ὀπάσσας.
65 Rohde, 'Psyche', 76-7.
66 Hesiod 'Works' 141-2: Ὑποχθόνιοι μάκαρες θνητοῖς καλέονται, δεύτεροι, ἀλλ' ἔμπης τιμὴ καὶ τοῖσιν ὀπηδεῖ.
67 Ibid. 252-3.
68 See above, p. 20.
69 Hesiod 'Works' 114: οὐδέ τι δειλὸν γῆρας ἐπῆν.
70 Ibid. 131: μέγα νήπιος.
71 Defradas, Le mythe hésiodique, 155: 'Seul un survol rapide du texte d'Hésiode autoriserait une telle erreur qui ne résiste pas à une lecture sérieuse.'

72 See above, p. 8.
73 See above, p. 8.
74 See above, p. 8.
75 See above, p. 20.
76 The only case which might seem an exception is that of the men of silver who live for a hundred years just like children, then perpetrate their follies and die forthwith. But it is clear that such a comparison would be misleading. It is only the *individual* members of the race of silver who are portrayed as progressing toward death, through a century-long childhood, just as Hesiod and Perses are themselves moving toward death in the process of progressive ageing. There is no question of a change in the conditions of life of the *race of silver* as a whole. We are not told that after several generations the men of silver, instead of remaining young until they die, are born adult or old. It is therefore not correct to claim, as does Defradas, that 'Hesiod does not treat the age of iron any differently from the preceding races.'
77 Hesiod 'Works' 179: ἀλλ' ἔμπης καὶ τοῖσι μεμείζεται ἐσθλὰ κακοῖσιν.
78 Ibid. 114.
79 Ibid. 181.
80 Ibid. 118-19.
81 Ibid. 191: καὶ ὕβριν ἀνέρα τιμήσουσι.
82 Ibid. 194.
83 Compare ibid. 195-6 with 21-6. Beggar is jealous (φθονέει) of beggar, singer of singer. Neighbour is envious (ζηλοῖ) of his richer neighbour, and there-

upon sets himself to work harder in order to become richer in his turn. Envy (ζῆλος) is thus, like *eris*, double and ambiguous. Just as there is a good *eris* alongside the κακόχαρτος *eris* - which takes pleasure in evil - there is a good *zelos* as well as a κακόχαρτος *zelos*. This is a remarkable example of the interplay of ambiguous concepts in Hesiod. The good *eris*, the praise-worthy one, which is profitable for mortals and is allied to dike, possesses an element of *phthonos* and of *zelos*, powers which are usually associated with war (cf. for example, Lysias 2. 48: war broke out among the Greeks: διὰ ζῆλον καὶ φθόνον). The wicked *eris*, the warlike one, implies *zelos* and *phthonos* in the bad sense, but it also includes a measure of emulation in the good sense, whatever urges the warrior to prove himself 'better' (ἀρείων) than his adversary, and to conquer him through his own superior valour. It is this positive aspect of warlike *zelos* that appears in the Hesiod 'Theogony' 384: *Zelos* associated with *Nike*, and *Kratos* associated with *Bia*, are grouped about the throne of the sovereign Zeus. In contrast, at the end of the age of iron it is the wicked *zelos* which urges the bad man, the villain (κακός), to attack the more valorous and nobler man (ἀρείονα), not with equal weapons, in a fair fight where the best man will win, but 'with deceitful words, backed up by a false oath' (Hesiod 'Works' 193-5).

84 Ibid. 184.

85 Cf., for example, ibid. 342 ff., 349.

86 Ibid. 396.

87 Ibid. 228 ff.

88 Ibid. 235 and 182.

89 This suggests that in the context of mythical imagery we already have a foreshadowing of what will be the important philosophical concept of 'mixture' (μίξις).

90 This appears to be the sense, as is suggested by B.A. van Groningen ('La Composition littéraire archaique grecque' (2nd edn, Amsterdam, 1960), 288, note 3), of line 108, which was condemned by Mazon: 'that gods and men have the same origins'. Defradas suggests another interpretation: 'If the hierarchy of the different classes of men explains the hierarchy of divine beings that are the objects of cults, the suspect phrase must be the true introduction to this.' There is a decisive objection to this hypothesis. The hierarchy of divine beings that the myth has to account for includes all the supernatural beings with the exception of the θεοί. Now, if the myth does

indeed have the function that is attributed to it, the word θεός should be taken in its technical sense, to mark the difference between the gods in the true sense of the word and the daemons or heroes.

91 Hesiod 'Theogony' 535 ff.

92 Hesiod 'Works' 197-200: is it necessary to point out that in the world of Hesiod, *Aidos* and *Nemesis* are still present? The νῦν of the present life (176) is contrasted to the τότε of line 197, which marks the final point of the cycle, the departure of all that remained of the divine in this world.

93 Defradas, Le mythe hésiodique, 155.

94 Maurice Halbwachs, 'Les Cadres sociaux de la mémoire' (Paris).

95 Cf. on the Hesiodic calendar the remarks of P. Nilsson, 'Primitive Time Reckoning' (Lund, 1920).

96 Cf. below, p. 89: 'The clearer conception in lyrical poetry of a human time travelling, never to return, along an irreversible line, calls into question the idea of an order that is entirely cyclical, and that of a periodical and regular renewal of the universe.' On the conception of a sequence of days, months, and seasons succeeding each other within the framework of an annual circular cycle, cf. 'the Homeric Hymn to Apollo' 249-50: 'But when the days and months reached their end and the Hours came with the circling of the year, ἂψ περιτελλομένου ἔτεο καὶ ἐπήλυθον Ὧραι'; cf. Hesiod 'Works' 386: αὐτὶ δὲ περιπλομένου ἐνιαυτοῦ...

97 Homer 'Iliad' 6. 146 ff.

98 Plato 'Politicus' 268e ff.

99 Ibid. 272a.

100 Ibid. 270d-e.

101 Mazon, quoted by Defradas, Le mythe hésiodique, 153: 'une formule analogue à ces antithèses familières si frequentes chez les Grecs pour exprimer cette idée de n'importe qui ou n'importe quoi.'

102 Apart from line 127, an ἔπειτα in line 137; and the final τότε in line 197, when *Aidos* and *Nemesis* leave earth for the heavens.

103 Defradas, Le mythe hésiodique.

104 Goldschmidt, Theologia, 36 (the word 'systematization' is underlined by Goldschmidt).

105 Ibid., 35: 'Cela ne va pas sans quelque difficulté pour la race d'argent, ensevelie par Zeus courroucé, parce qu'elle refusait de rendre hommage aux dieux olympiens; cependant même les membres de cette race impie sont vénérés.'

106 Ibid., 31.

107 Ibid., 37: 'On peut admettre qu'Hésiode a dedoublé la classe des démons pour assigner ainsi à la race d'argent une place dans le système.'

108 This is why this text of Hesiod presents the historian of Greek religion with a problem of the first importance with regard to the cult of the heroes. We know that in Homer the term ἥρως has no precise religious significance. In Hesiod the term, for the first time, appears with a religious meaning in the context of the classification of supernatural powers. But there is still no question of a *timé*, a cult, or at least a public cult extending beyond the family circle within which rituals connected with honouring the dead normally remain. By contrast, in the organization of religion in the city-state the public cult of the heroes has a very definite place and character. How and when did this cult become established with the particular features that we know it to have had in the classical period? It is a difficult problem. Let us note, simply, that the category of the heroes comprises elements which clearly had diverse origins. Neither of the two traditional theories is successful in accounting for all the facts: both the theory according to which the cult of the heroes is connected with the cult of the dead and the theory which sees the heroes as ancient outdated gods fail in this respect. As well as those heroes which are clearly former deities or famous dead whose cult is connected with a particular tomb, there are deities of the earth who are very close to Hesiod's subterranean daemons, and deities connected with particular functions of every kind. One has a strong feeling that the unification of these various elements into a single homogeneous and well-defined category, with its appointed place in worship and in the hierarchy of divine beings, must have been related to certain social needs connected with the founding of the city. Here again Hesiod seems to lie between the Homeric world and the world of the *polis*. From a theological point of view he would seem to be truly a precursor, with his terminology and classification of divine beings into gods, daemons, the dead, and heroes. It would seem that this was the opinion of Plato ('Cratylus' 397e ff.) and of Plutarch ('Moralia' 415B); for not only does Homer not class the heroes in a religious category, but neither does he distinguish clearly between the *theoi* and the daemons. Plutarch is therefore quite correct when he writes that Hesiod was the first to distinguish between the two kinds: καθαρῶς καὶ διωρισμένως.

109 I may be allowed to refer here to the conclusion of my first study (see above, p. 22), where these two principles of interpretation were more fully developed.

110 Defradas, Le mythe hésiodique, 155.

Part Two

Mythical Aspects of Memory and Time

3 Mythical Aspects of Memory

In an issue of the 'Journal de Psychologie' devoted to the history of man's elaboration of various conceptions of time, (2) I. Meyerson pointed out that memory, in so far as it can be distinguished from habit, was invented only with difficulty; it is the result of man's progressive conquest of his individual past just as history represents the social group's conquest of its collective past. The conditions which made this discovery possible in the protohistoric period and the forms that memory originally took are problems beyond the scope of scientific investigation. On the other hand, evidence does exist concerning the place, orientation, and role of the function of memory in ancient societies for the psychologist who investigates the stages of its historical development. The documentary evidence which serves as the basis for our study concerns the deification of memory, and the elaboration of a vast mythology concerning remembering in archaic Greece. We are dealing here with religious representations. They are not at all gratuitous. We believe that they are directly concerned with the development of memory. At different periods and in different cultures there are close links between the techniques for mental recall, the inner organization of the faculty, the place it occupies in the system of the ego, and the ways that men picture memory to themselves.

The Greek pantheon includes a deity who bears the name of a psychological function: Mnemosoune (Memory). No doubt this is not the only example of such a deity. Greek gods often represent passions and feelings, Eros, Aidos, Phobos; mental attitudes, Pistis; intellectual qualities, Metis; and faults or aberrations of the mind, Ate, Lyssa. (3) Many phenomena which we would term psychological can thus be the object of a cult. In the context of religious thought they take the form of sacred

forces that are greater than man and beyond his power even when he experiences them within himself. However, Mnemosoune seems to be a special case. Memory is a very complicated function which is related to important psychological categories such as time and identity. It brings into play a whole collection of complex mental operations with all the effort, training, and exercise that are needed to master them. The power of recall is, as we have pointed out, a conquest. The consecration of Mnemosoune indicates the value that is set upon it in a civilization whose traditions were entirely oral, as was the case with Greece between the twelfth and eighth centuries BC, before the spread of writing. (4) We must define the nature of this memory that the Greeks made into a deity. In what domain, by what means, and in what form does the power of recall, presided over by Mnemosoune, operate? What are the events or the truth that it aims to recapture? To what extent is it directed towards knowledge of the past and the construction of a temporal vantage point? We have no evidence apart from the mythical accounts. But through their information about Mnemosoune, the activities she patronizes, and her attributes and powers, we may hope to discern some of the features of this archaic memory, and to understand certain aspects of the way it functions.

Mnemosoune is a Titan goddess, the sister of Kronos and Oceanus, the mother of the Muses, (5) whose chorus she leads and with whom she is sometimes confused, and, as we know, she presides over the poetic function. It was self-evident to the Greeks that this function required some supernatural intervention. Poetry represents one of the typical forms of divine possession and madness, the state of 'enthusiasm' in the etymological sense of the word. The poet, being possessed by the Muses, is the interpreter of Mnemosoune just as the prophet, being inspired by Apollo, is the interpreter of this god. (6) Moreover, as has often been pointed out, (7) there are affinities and even a reciprocal influence between prophecy and oral poetry as it is practised, in the archaic period, among the brotherhoods of the bards, singers, and musicians. The bard and the diviner share the same gift of 'second sight', a privilege for which they have had to pay with their sight. They are blind in the light of day, but they can see what is invisible. The god who inspires them shows them in a kind of revelation the truth that eludes the sight of men. This double vision relates, in particular, to the parts of time which are inaccessible to mortal creatures, namely, what

happened in bygone days and what is yet to come. The knowledge or wisdom, *sophia*, (8) that Mnemosoune dispenses to her chosen ones is an 'omniscience' of the divinatory type. The same expression, used by Homer to describe the art of the diviner Calchas is applied, in Hesiod, to Mnemnosoune: she knows - and she sings of - 'all that has been, all that is, and all that is to be.' (9) But unlike the diviner, who usually has to solve problems concerned with the future, the poet's activity is almost exclusively concerned with the past. Not his own personal past, nor even the past in general as if it were a matter of an empty framework quite independent of the events that take place within it, but rather the 'olden days' with all their own particular content and quality - for example, the heroic age, or, even further back, the primeval age or original time.

The poet has an immediate experience of these bygone days. He knows the past because he has the power to be present in the past. To remember, to know, and to see are so many interchangeable terms. A commonplace in the poetic tradition is to contrast the type of knowledge of the ordinary man (knowing by hearsay based upon the information provided by others and on reported speech) to the knowledge of the inspired, which, like that of the gods, is a direct, personal vision. (10) Memory carries the poet into the middle of ancient events, back in their own time. (11) The organization of time in his account simply reproduces the sequence of events at which he is somehow present, in the same order in which they happened, from their beginning. (12)

All these features, defining the inspiration by the Muses - a direct presence in the past, immediate revelation, a gift of the gods - in no way preclude the need for the poet to undergo a hard training, a kind of apprenticeship, for his state of second sight. Nor does the use of improvisation in the course of the song preclude his fidelity to a poetic tradition preserved from one generation to the next. On the contrary, the rules of oral composition themselves insist that the bard should have at his command not only a whole body of themes and tales, but also a technique of formulaic diction which comes to him, ready-made, and which involves the use of traditional expressions, predetermined combinations of words, and established rules of versification. (13) We do not know how the apprentice was trained in the mastery of this poetic language within the brotherhoods of bards. (14) One can imagine that a large part of the training involved exercises in memorization and, in particular, the recitation of extremely long passages learned by heart. (15) There

is evidence for this in Homer. An invocation to the Muse or Muses (apart from the instances where, as is to be expected, it appears at the beginning of a book) may introduce one of those interminable lists of names of men, places, or peoples that are known as catalogues. Thus, in the second book of the 'Iliad', with the catalogue of ships is given a veritable inventory of the Greek army, listing the names of the leaders, the divisions placed under their command, their places of origin, and the number of their ships. The list is 265 lines long. It opens with the following invocation:

> And now tell me, Muses, you dwellers of Olympus - for you are goddesses and, being present everywhere you know everything, while, for our part, we only hear a rumour and know nothing - tell me who were the captains of the Greeks and their lords. (16)

The catalogue of the ships is immediately followed by the catalogue of the best Greek warriors and horses, and this opens with a fresh invocation to the Muses; and it is almost immediately followed by the catalogue of the Trojan army. The whole passage accounts for about half of book 2, about 400 lines in all, composed almost exclusively of a sequence of proper names to cope with which a trained memory would indeed be necessary.

Such collections of names may seem boring. But the taste for them shown by Homer, and even more by Hesiod, indicates that the role they play in their poetry is of the first importance. It is through them that the repertoire of known facts that enables a social group to piece its 'past' together is established and transmitted. They constitute, as it were, the archives of a society that has no writing; they are purely legendary, answering no administrative needs. Their purpose is not to glorify the kings and they show no concern for history. (17) Their purpose is to set up an order in the world of the gods and heroes, and to draw up as accurate and complete as possible a record of their names. In these collections of names composing the list of human and divine agents, giving details of their families, their countries, their genealogy, and their hierarchy, the various traditional legends are codified and the subject matter of the mythical stories is organized and classified.

This concern for exact classification and complete enumeration gives ancient poetry a correctness like that of ritual, even when its first intention is to entertain, as is the case with Homer. Herodotus could later justifiably maintain that it was in the poems of Homer and Hesiod that the crowd of hitherto anonymous Greek gods were sorted out, defined, and named. (18) This setting in order of

the religious world is closely related to the poet's attempts to determine 'origins'. In Homer it is simply a question of fixing the genealogies of men and gods, of pinpointing the origins of peoples and royal families, and of establishing the etymologies of certain proper names and the *aition* of the epithets attached to cults. (19) In Hesiod this inquiry into origins takes on a truly religious aspect and confers upon the poet's work the character of a sacred message. When the daughters of Mnemosoune presented him with the rod of wisdom, the *skeptron* cut from a laurel tree, they taught him 'the Truth'. (20) They also taught him the 'divine song' with which they themselves charm the ears of Zeus and which tells of the beginning of all things. The Muses do indeed sing, starting at the beginning - ἐξ ἀρχῆς (21) - of the first appearance of the world, the genesis of the gods, the birth of humanity. The past thus revealed represents much more than merely the time prior to the present: it is its very source. By going back to it the process of recall seeks, not to situate events within a temporal framework, but to reach the very foundation of being, to discover what is original, the primeval reality from which the cosmos emerged and which makes it possible to understand the whole process of becoming.

This genesis of the world, whose course is related by the Muses, has a before and an afterwards but it does not unfold in one homogeneous period, in one single time. The rhythm of this past depends not upon a single *chronology* but upon *genealogies*. Time is, as it were, understood, in the account of the relations between generations. Each generation, each 'race', γένος, has its own time, its 'age', and the durations, flux, and even orientations of these can differ in every respect. (22) The past is stratified into a succession of 'races'. These races make up the 'ancient times', (23) but that does not stop them from continuing to exist, and, in the case of some, to be much more real than present-day life and the contemporary race of humans. Primeval realities such as Gaia and Ouranos, which were contemporaneous with original time, remain the unshakable foundation for the world of today. The powers of disorder, the Titans, the offspring of Ouranos, and the monsters vanquished by Zeus continue to live and to move far beneath the earth, in the night of the underworld. (24) All the ancient races of men which gave their names to bygone times - to the age of gold under the reign of Kronos, through the ages of silver and bronze to the age of the heroes - are still present to those who know how to see them. They have taken the form of spirits skimming over the surface of the earth or

subterranean daemons or the inhabitants of the Island of the Blessed beyond the ocean's rim. (25) The Olympians who succeeded Kronos and whose reign established the order of this world are also forever present and forever alive, as their title of αἰὲν ἐόντων indicates. (26) Ever since their birth they have lived in a time that knows neither ageing nor death. The vitality of their race extends and will continue to extend throughout all ages, with all the impetus of an undying youth.

So it cannot be said that the evocation of the 'past' makes what is no longer live again, giving it, for us, the illusion of existence. Never for a moment does the journey back through time make us leave contemporary realities. In moving away from the present we are only leaving the visible world. We step outside our own human universe and discover behind it other regions of being, other cosmic levels normally inaccessible to us. Beneath is the infernal world with all its inhabitants, above the world of Olympian gods. The 'past' is an integral part of the cosmos. To explore it is to discover what is hidden in the depths of being. History as celebrated by Mnemosoune is a deciphering of the invisible, a geography of the supernatural.

What then is the function of memory? It does not reconstruct time, nor does it abolish it. By eliminating the barrier that separates the present from the past it throws a bridge between the world of the living and that beyond to which everything that leaves the light of day must return. It brings about an 'evocation' of the past comparable to that effected for the dead by Homer's ritual of the ἔκκλησις. (27) This is a summons, for one brief moment, of one of the dead from the underworld to the world of the living and into the light of day. It is also comparable to the journey which is mimed out in certain consultations of oracles: the descent of a living person into the underworld for the purpose of finding out - and seeing - what he wants to know. The privilege that Mnemosoune confers upon the bard is the possibility of contacting the other world, of entering and returning from it freely. The past is seen as a dimension of the beyond.

By communicating the secret of origins to Hesiod, the Muses are uncovering a mystery to him. Anamnesis, remembering, couched in poetry whose inspiration is moral and religious, appears to be in itself a kind of initiation. The chosen one who benefits from it is himself transformed by it. At the same time that the 'truth' of becoming is unveiled before his eyes - that is, the definitive estab-

lishment of divine and cosmic order, and the progressive disorder among mortal creatures, (28) the poet's vision of the ancient times liberates him, to a certain extent, from the evils that beset contemporary humanity, the race of iron. It is as if memory brings him a transmutation of his own temporal experience. Through the contact that it establishes with the first ages, the divine αἰών, the primeval time, it enables him to escape from the time of the fifth race which is so fraught with fatigue, wretchedness, and anxiety. (29) Mnemosoune, she who makes one remember, is, in Hesiod, also she who erases the memory of evils, the λησμοσύνη κακῶν. (30) The necessary counterpart to recollection of the past is the 'forgetting' of present time.

It is therefore not surprising that at the oracle of Lebadeia, where a descent into Hades was enacted in the cavern of Trophonius, we find Lethe, forgetfulness, associated with Mnemosoune, forming with her a pair of complementary religious powers. (31) Before venturing into the mouth of hell, the questor, who had already undergone rites of purification, was taken to two springs named respectively Lethe and Mnemosoune. He drank from the first and immediately forgot everything to do with his human life and, like a dead man, he entered into the realm of Night. The water of the second spring was to enable him to remember all that he had seen and heard in the other world. When he returned he was no longer restricted to knowledge of the present moment: contact with the beyond had revealed both past and future to him.

Oblivion is thus a water of death. Without having drunk of it, that is to say, without having lost both remembrance and consciousness, none can enter the kingdom of the shades. In contrast, memory appears as a source of immortality, the ἀθάνατος πηγή mentioned in certain funerary inscriptions, which ensures for the deceased his survival in the beyond. (32) Precisely because death is defined as the realm of oblivion, the Λήθης πεδίον, (33) he who retains his memory in Hades transcends the mortal condition. For him there is no longer any opposition or barrier between life and death. He can move freely from one world to the other. In this respect he resembles Aethalides, the son of Hermes, who was granted by his father 'a constant memory' to make him immortal: 'Even when he crossed Acheron, oblivion did not submerge his soul; and although he inhabits now the abode of the shades, and now that of the light of the sun, he always retains the memory of what he has seen.' (34) In Aethalides's case this privilege of non-death takes on a particular significance which we shall have to study in

more detail in connection with the belief in metempsychosis. But in a more ancient tradition the same privilege already belongs to all those whose memory is able to discern, far beyond the present, what is buried deep in the past and what is preparing, in secret, to come to pass in the future. Diviners like Tiresias and Amphiaraus are such. (35) In the midst of the wavering shades of Hades they have forgotten nothing of their earthly life, just as they have succeeded here in acquiring remembrance of the invisible times that belong to the other world.

The Mnemosoune of the Lebadeia ritual is still from many points of view related to the goddess who presides over poetic inspiration in Hesiod. As the mother of the Muses her function is to reveal 'what has been and what is to come'. But in her association with Lethe she appears as an infernal power, operating on the threshold of the afterlife. The beyond, to which she gives the initiate access, is identified with the world of the dead. (36)

We find the pair memory and oblivion also at the heart of a doctrine concerning reincarnation of souls evident in a whole series of writings of a mystical nature of widely varying date, origin, and significance. Mnemosoune has undergone a transformation in the context of these eschatological myths. She is no longer she who sings of the primeval past and the genesis of the cosmos. Here she is the power on whom the destiny of souls after death depends, and she is involved in the mythical history of individuals and with the transformations occurring in their successive incarnations. Similarly, she no longer brings to mortal creatures the secret of origins, but the means to reach the end of time and to put an end to the cycle of generations.

This change reflects a whole order of new preoccupations and needs that are absent from the poetry of Homer and Hesiod. It corresponds to a quest for salvation. And in the context of thought which interests us this quest goes hand in hand with an interest (investigated more or less philosophically) in the problems of time and the soul.

The transposition of Mnemosoune from cosmology to eschatology alters the whole balance of the myths about memory. Even if they appear to retain the old themes and symbols, their meanings undergo profound changes. Images which in traditional descriptions were connected with Hades - the desolate region, the icy abode, the kingdom of the shades, the world of oblivion - are now applied to earthly life which is seen as a place of trial and of punishment. (37) The exile of the soul no longer occurs

when it leaves a man deprived of life and flies away beneath the earth, as a phantom devoid of strength and consciousness. It occurs, on the contrary, when the soul returns here to earth to join the body. The soul is the more 'lucid' and less 'forgetful' to the extent that it has been able to free itself from this union. (38) The waters of Lethe no longer receive on the threshold of Hades those who, in passing from life to death, are going to forget the light of the sun in the infernal world. Now they affect those who are returning to earth in the opposite direction for a new incarnation, erasing the memory of the celestial world and its realities with which the soul is linked. The water of oblivion is no longer the symbol of death, but of a return to life and to existence within time. The soul which has not abstained from drinking these waters, 'being satiated with oblivion and wickedness', (39) is once again thrust upon this earth where the inflexible law of becoming holds sway. It believes that with birth it will enter upon a life which will come to an end with death. But in the realm of time there is no true beginning nor any true end. The soul simply starts the same cycle of trials all over again, indefinitely. And, because it forgets the preceding phases every time, it can never come to the end, the τελο , a word meaning not only the end of a period in the temporal sense but also in a religious sense, the initiation which consecrates the entry to a new form of existence for anyone who has thus 'accomplished' a phase of his life. (40)

Swept along in the cycle of becoming, the κύκλος γενέσεως, (41) turning in the circle of necessity, (42) chained to the wheel of birth and death, (43) the life of those whose souls alternate between the bodies of men, plants and animals, represent the earthly image/incarnation of the legendary tormented in the infernal regions; Sisyphus constantly pushing his rock up the mountain only to find that it constantly falls down again; Ocnos plaiting a rope out of reeds while a she-donkey forever nibbles it away; the Danaides striving in vain to fill a leaking barrel with water that runs away through a sieve riddled with holes, the sieve that Plato calls the soul of those unfortunate ones who, through their forgetfulness, are incapable of stopping the contents from leaking away. (44)

In the inscriptions on the gold plates that the deceased carry with them to guide them through the winding paths of the beyond, Lethe appears at the crossroads as the spring on the left-hand way which they must not approach if they desire to 'escape from the sad cycle of griefs' forever, that is, to escape reincarnation and to

be changed from a man into a god. (45) The same themes and images appear in Plato's myth in the 'Republic': (46) the parched souls must avoid drinking from the river of the plain of Lethe 'those waters that no receptacle can possibly retain', and which, in bringing them oblivion, return them to the process of generation. In Plato this oblivion which is the essential flaw in a soul, its peculiar illness, is none other than ignorance. In the waters of Lethe souls forget the eternal truths that they were able to contemplate before returning to earth again and that Anamnesis will enable them to rediscover by restoring them to their true nature.

Thus, in Plato, the myths about memory are integrated into a general theory of knowledge. But the link between these myths and belief in reincarnation which subsists even in his philosophy suggests that originally they must have had a more direct association with the transformations of the soul in the course of its previous existences. (47) A comparison between the various texts that still reveal traces of these legends confirms this hypothesis.

In the plates of Petelia and Eleutherna the soul that has managed to avoid Lethe and take the correct road lying to the right comes upon a spring which rises in the lake of Mnemosoune. The soul proclaims its purity and its heavenly origins and asks the guardians if it can quench its thirst: 'Quickly give me the cool water that flows from the lake of Memory. And they of their own accord will give you to drink from the sacred spring, and after that you will be master among the other heroes.' In the text of the plates found at Thurium, the soul who takes the right-hand road and who similarly proclaims itself to be pure and of the heavenly race is hailed as the soul who, 'having suffered the punishment', 'having paid the price for unjust acts', (48) has escaped from the sad cycle of griefs: 'You will be a god and no longer a mortal ..., from being a man you have become a god....'

This idea that, in order to rise in the scale of beings and eventually attain the condition of heroes and gods, (49) the soul must, in the course of its life, purify itself through expiation, paying the price for its faults, is to be found in a more explicit form in certain texts of Pindar and Empedocles. These speak of 'ancient faults', of the evil that the soul may have committed at other times in its previous existences. (50) According to Pindar the souls of those 'who have paid the ransom for an ancient stain' (51) give birth, in their last incarnation, either to kings or to victors in the games or to 'sages'. These are three types of 'divine men' who will be honoured as heroes after their deaths. (52) For Empedocles, souls

that have been sullied by bloodshed or treachery 'wander as banished men far from the Blessed for three times ten thousand seasons and as they are born again and again throughout the cycle of ages, take on in turn all the forms of mortal creatures....' (53) When this cycle of expiation is completed they become incarnate in men whose wisdom and function makes them into 'daemonic' figures: 'In the end they have become prophets, poets, doctors and leaders of men on earth. They are then reborn amid the ranks of the gods ..., they share the abode of the other immortals and, free from human anxieties, they elude destiny and destruction.' (54) The *magus* Empedocles is himself diviner, poet, doctor, and leader of men, all at once. So he describes himself as θεῖος ἀνήρ, already freed from the mortal condition: 'I am delivered, forever, from death, an immortal god revered by all....' (55) In contrast to those whom he describes as 'men of short destiny' (56) because the duration of a life spanned by birth and death makes up the whole of human existence for them, the sage, once he has reached the understanding of all things, knows that in truth there is neither beginning nor end for mortal creatures, only cycles of metamorphoses. (57) Empedocles himself still remembers all this past that others forget at each rebirth: 'Now a wanderer exiled from the divine abode, ... at other times I have already been a boy and a girl, a bush and a bird, and a dumb fish in the sea....' (58)

This recollection of previous lives with all their faults and their defilements does more than simply justify the rules of the ascetic life, which, according to the doctrine of the 'Purifications', ensure for the soul salvation and escape from the cycle of births. The very effort involved in remembering is itself a 'purification', an ascetic discipline. It constitutes a truly spiritual exercise, and there is one indication in Empedocles that allows us to glimpse what form it took and the scope of its effect. This man who proclaims himself to be a god among mortals does homage to the exceptional wisdom of one of his predecessors, a man whose thought, instead of confining itself to the present existence, 'encompasses with ease things that are met with in ten, or twenty, lives of men.' (59) This is most probably an allusion to Pythagoras whose sequence of previous lives was legendary. (60) The story went that Pythagoras could remember having lived during the Trojan War in the person of Euphorbus who was killed by Menelaus. The list of his previous incarnations also included Aethalides whom we have already mentioned, who retained an unwavering memory through life and death. It was claimed that, starting from Aethalides,

the gift of *anamnesis* had been passed on to all the members of the series right down to Pythagoras. (61) These accounts should be set alongside the regular 'memory exercises' of the Pythagorean life. (62) The obligation laid on the members of the fraternity to recall all the events of the day gone by, each evening, had more than the moral value of an exercise in soul-searching. The effort involved in remembering, if undertaken following the example of the sect's founder so as to encompass the story of the soul throughout ten or even twenty different lives, would make it possible for us to learn who we are and to know our own *psyche* - that daemon which has become incarnate in us. (63) According to Proclus, the *anamnesis* of previous lives constitutes a purification of the soul. (64) To recapture the whole web of its past lives the soul must liberate itself from the body that fetters it to the present. This ascetic exercise of memory is described by Empedocles as 'a tension between all the forces of the mind', (65) and Plato, following what he calls 'a long-standing tradition', describes it as a concentration of the soul, which, as it emerges from every part of the body, manages to assemble and gather itself together and to concentrate itself, pure and unadulterated, totally separated from the body with which it was fused. (66) Empedocles's and Plato's thought are not directly comparable. However the theme that the one expounds directly and the other transposes to the level of philosophy is one and the same very ancient tradition of the magi, the memory of which has come down through Pythagoreanism. Louis Gernet has pointed out that, in order to indicate 'mind', Empedocles uses the old term πραπίδες, one of those words which is used to refer to both the organ of the body and a 'psychic' activity, without distinguishing very clearly between them. (67) What πραπίδες really means is the 'diaphragm', whose 'tension' regulates or even stops respiration. We are, after all, familiar with the links that exist in archaic Greek thought between the soul and breath. Plato's descriptions of the soul collecting itself together from every part of the body remind one of the belief, which, according to Aristotle, was shared by the Orphics - namely, that during respiration the soul is dispersed throughout the body into which it has been introduced, carried on the winds. (68) Tension of the *prapides*, concentration of the psyche's breath: these mental exercises in recollection might in ancient times have been part of the techniques for controlling breathing that were supposed to allow the soul to concentrate itself in order to escape from the body and journey to the beyond. According to legend, these are precisely

the powers that are attributed to the magi. Their souls depart from their bodies and re-enter them at will, leaving them - sometimes for many years - lying breathless and lifeless in a kind of trance. (69) The soul returns from such travels in the other world enriched with prophetic knowledge. In a case like that of Epimenides this power of divination is entirely 'retrospective'. (70) It relates to faults committed in ancient times that have remained unknown. These it reveals, washing away the defilement by the appropriate rites of purification.

The similarity between Epimenides's ecstasy of recollection and the *anamnesis* of the previous lives of Pythagoreanism seems all the more striking in that the figure of the purificatory diviner is already characterized in his private life by his ascetic discipline. The change from the shamanist techniques cultivated by the magi in some mental memory exercises takes place within a sect preoccupied with salvation, when the old idea of a reciprocal exchange between the dead and the living is redefined in the new form of a theory of palingenesis. This doctrine, in which *anamnesis* is a matter of the individual history of souls, confers upon the effort involved in recollection a moral and metaphysical significance that it did not hitherto possess. By recovering the memory of the whole series of his previous existences and of the faults that he may have committed in them, man can succeed in paying the full price for his injustices, and thereby end the cycle of his individual destiny. The present life then becomes the last link which makes it possible for the chain of incarnations to be definitively completed. Once it has atoned for everything, the soul, being restored to its original purity, can at last escape from the cycle of births, leaving generation and death behind it, and can gain access to the form of unchanging and permanent existence which is the prerogative of the gods.

In Pythagoreanism *anamnesis* fully develops what was only suggested in Hesiod: initiation into a new state and a radical transformation of temporal experience takes place. Fleeting and elusive time, made up of an indefinite succession of constantly renewed cycles, is brought at last to its conclusion, its τέλος, by the recollection of previous lives. It is replaced by a time that is reconquered in its totality, a cycle that is quite complete and finished. Thus the enigmatic expression of the doctor Alcmeon of Crotona, who is associated with the Pythagoreans, becomes illuminated: 'Men die because they are not able to join the beginning to the end.' (71) By enabling the end to join up with the beginning, the exercise of memory wins salvation, deliverance from becoming

and from death. Oblivion, on the other hand, is intimately linked with human time, the time of the mortal condition whose flux 'which never stops' is synonymous with 'inexorable necessity'. It is said that, on hearing time praised as that 'in which one learns and remembers', the Pythagorean Paron asked if it were not, on the contrary, the case that time creates forgetfulness and declared that time was the king of ignorance. (72)

Thus the central place given to memory in eschatological myths indicates an attitude of refusal with regard to temporal existence. Memory is exalted because it is the power that makes it possible for men to escape time and return to the divine state. One remark will enable us to pinpoint the link between the high value attached to *anamnesis* and the development of a critical and negative attitude towards time. In the same circle of sects where belief in metempsychosis took root, there arose, alongside the interest in memory in the sense of recollection of earlier lives, a whole body of doctrine of a more or less mythical nature concerning time which was considered as a fundamental notion. (73) For Pherecydes, who was considered to have been the master of Pythagoras, since he was said to have been the first to proclaim the immortality of the soul and formulate the theory of reincarnation, time - Chronos - is a god and has a place at the very origin of the cosmos. (74) From his seed were born the two antithetical elements from which the universe is made. Chronos, a living creature and at the same time an abstract concept, thus plays at the origin of all things the role of the principle of unity transcending all contraries. Chronos is also to be found in the Orphic theogonies where he assumes a similar function. (75) He is a polymorphous monster who engenders the cosmic egg which, when it splits into two, gives birth to the sky and the earth and brings forth Phanes, the firstborn of the gods, a hermaphrodite deity in whom the opposition between male and female has disappeared. (76)

We must make no mistake about the significance of this deification of *chronos* or the new importance accorded to time in this type of theogony. The time that is hallowed is the time that does not age, time immortal and imperishable as it is celebrated in the Orphic poems under the name of *chronos agèraos*. Like another mythical figure, the river Oceanus that encircles the entire universe in its untiring course, (77) *chronos* appears as a snake whose body forms a circle. It is seen as a cycle which, by enfolding the world and binding it together, makes the cosmos one eternal sphere, despite the appearances of multiplicity and change. (78) Thus the deified image of

time betrays an aspiration towards the unity and everlastingness of the whole which is comparable to that expressed, in another context, in the philosophy of Parmenides and in his criticism of becoming. In so far as it is a principle of unity and permanence, *chronos* in its divine form appears as the radical negation of human time which is, by contrast, affectively experienced as a source of instability and destruction presiding, as Paron declared, over oblivion and death.

Thus the development of a mythology concerning *chronos* alongside that concerning *mnemosoune* seems to us to correspond with a period of difficulty and anxiety regarding the representation of time. Time is the subject of doctrinal preoccupations and assumes the form of a problem once a domain of the experience of time is found to be incompatible with the ancient conception of a cyclical becoming, which had applied to the whole of reality, regulating at once seasonal activity, the timing of festivals, and the sequence of generations, or, in other words, cosmic time, religious time, and human time. This crisis took place in the Greek world in about the seventh century at the point when, with the birth of lyric poetry, a new image of mankind was finding expression. (79) The heroic ideal was abandoned and there emerged values directly associated with the affective life of the individual and subject to all the vicissitudes of human existence - pleasures, emotions, love, beauty, and youth. The corollary to all this was an experience of time which no longer fitted in with a circular model of becoming. According to the archaic way of thinking, emphasis was placed upon the succession of human generations being renewed one after the other through a process of ceaseless interchange between the dead and the living. (80) In this manner human time appeared to be integrated into the cyclical organization of the cosmos. When, however, the individual turns to consider his own emotional life, and, in the thrall of the present moment with all that accompanies it in the way of pleasure and pain, he locates the values to which he has become attached in time as it passes, he feels that he himself is being swept along in a moving, ever-changing, and irreversible flux. Because it is dominated by the fatality of death which affects its whole course, the time in which his existence takes place appears to him as a power of destruction which irremediably ruins everything that he considers to make life worth living. The clearer conception, in lyric poetry, of a human time travelling never to return, along an irreversible line, calls into question the idea of an order that is entirely cyclical and that of a periodic and regular renewal of the universe. (81)

In consequent reaction to this, thought about time within the philosophical-religious sects appears to be following two different courses. On the one hand we find an attitude that is violently negative towards this time of human existence which is seen as an evil from which man must escape. On the other, we find an effort to purify divine existence from everything that binds it to any type of temporality at all, even cyclical. The 'always' which is used to define the life of the gods, and which is expressed in the concept of the divine Αἰών, no longer means the perpetual rebeginning of that which ceaselessly renews itself by returning to its beginnings, and comes instead to signify permanence in an eternally immobile identity. (82) The image of the circle, symbolizing the temporal order, now takes on an ambiguous significance, and can, according to the circumstances, become charged with directly conflicting affective values. In one sense the κύκλος remains a model of perfection; and the soul which, through the *anamnesis* of its previous lives, has managed to 'join the end to the beginning' becomes like the stars whose circular course - a moving image of immobile eternity - forever preserves them from destruction. And yet in completing its cycle the soul is seeking, not to begin it all over again, forever, as the stars do, but to escape definitively from it and to leave time forever. (83) The κύκλος in the new image of time becomes the sad cycle of necessity and suffering, the cruel wheel of births from which one longs to escape and which appears in descriptions of the infernal regions, as a symbolic instrument of torture and chastisement. (84)

These discrepancies in the representation of time and the anxieties that they arouse in certain circles make it easier to understand the significance and implications of the memory exercises. The effort to recollect what is so much praised and exalted in myth is not evidence of an awakening of interest in the past nor of an attempt to explore human time. As regards the temporal sequence as the individual apprehends it in the course of his affective life and as he conceives it in terms of nostalgia and regret, *anamnesis* is concerned with this only to the extent that it seeks to escape from it. It seeks to transform this time of individual life - time lived through, incoherent and irreversible - into a cycle reconstructed as a whole. It seeks to reintegrate human time into cosmic periodicity and divine eternity. (85)

A similar development of memory is to be found in the relationship between *anamnesis* and the concept of the individual soul. We have seen that in Pythagoreanism the recollection of previous lives may appear as a means of

knowing oneself - not in the rather banal sense given to the phrase by the Delphic oracle, that is: not to claim to equal the gods, but in a new sense, that is: to know our soul, apprehending and recognizing its unity and continuity through all its multiple incarnations. (86) Meanwhile, this *psyche*, whose transformations, for each man, make up the web of his individual destiny, is represented as a daemon, a supernatural being which lives an independent existence within us. Even if from now on the *psyche* is opposed to the life of the body and the more separate from the body it is the more pure it becomes, this does not mean that it becomes the vehicle for man's individual psychic life. Empedocles makes a clear distinction between on the one hand sensation, thought, and reason itself - all the forms of human knowledge - and, on the other, the daemon that lives within us. (87) The fact that this daemon is individualized, assigned to a particular human being who discovers his own destiny within it, does not alter its character of a mysterious power; it is foreign to man, a reality present in the very heart of the whole of nature, in wind, animals, and plants, just as much as in man.

The memory of the incarnations that the daemon of our soul has known previously thus bridges the gap between our existence as men and the rest of the universe. The ancient image of a world full of souls and breaths, all interrelated and ceaselessly circulating between all nature's creatures, thus acquires the value of an experience that the individual is capable of living at his own level. We can understand in what sense and within what limits one should see the memory exercises as an attempt made by the individual to know himself through his psyche. It is not a matter of the individual apprehending himself in his personal past and finding himself again within the continuity of an interior life that differentiates him from all other creatures. He must place himself within the framework of a general order, and re-establish on every every level the continuity existing between himself and the world, systematically connecting the present life with time as a whole, human existence with all of nature, the destiny of the individual with the totality of being, the part with the whole.

What is striking about all this evidence for the deification of memory is that the high value placed upon this function and the importance of the role that was attributed to it did not lead to any attempt to explore the past nor to the construction of an architecture of time. Wherever memory is revered it is exalted as being either

the source of knowledge in general, of omniscience, or as the instrument through which to escape from time. Nowhere does it appear to be linked with any development of a truly temporal perspective. Nor has it anything to do with the category of the ego. *Mnemosoune* is impersonal memory and when it presides over poetic inspiration it is not concerned with the past of the individual. And as for the *mnemosoune* that within the sects answers to the new need for individual salvation, this is not directed toward self-knowledge in the sense that we understand it, but rather toward an exercise of purification which transfigures the individual and promotes him to the ranks of the gods.

Both these features of mythical memory, escape from time and union with the gods, are to be found in the Platonic theory of *anamnesis*. In Plato recollection no longer focuses upon the primeval past nor upon previous lives. It has as its object those truths which, together, constitute reality. *Mnemosoune*, the supernatural power, has established itself within man to become the very faculty of knowing. The attempt at recollection which once belonged to mystic exercise now becomes identified with the search for truth. (88) There is another side to this identification: for Plato, to know is one and the same thing as to remember, or, in other words, to escape from the time of the present life, to flee far away from this earthly world and return to the divine country of our soul, to come again to a 'world of ideas' which is opposed to the earthly world as is that beyond with which *mnemosoune* enabled us to communicate.

In Plato's theories mythical thought lives on while it is, at the same time, transformed. *Anamnesis* here does not have the function of reconstructing the past and setting it in order. It is not concerned with a chronology of events; rather, it reveals the eternal and unchangeable being. (89) Memory is not the 'thought of time' but an escape from it. Its aim is not to trace the history of an individual in which the singleness of personality would be revealed. What is seeks to do is to unite the soul with the divine.

The persistence, in Platonism, of mythical ideas concerning memory is all the more striking since Plato profoundly altered the concept of the human *psyche* and developed it in the direction of the idea of an 'inner man'. (90) The soul is no longer seen as a spiritual being that is foreign to us, but as our own spiritual being. The soul of Socrates is Socrates himself; it is the individual Socrates whose portrait Plato draws in all its particularity. (91) And yet the psyche remains something

else as well. In the first place, it is not entirely fused with our inner being since it can equally well be incarnate in another man or in the body of an animal. And second, it is only truly itself after our death, when we no longer exist, or in those short moments - which are a foretaste of death - when it has broken its links with our organic and sensitive functions and has become pure thought. To borrow Maurice Halbwachs's striking phrase, in Plato the psyche does not mean the psychic life and functions: it is their 'transfer', just as in Homer it was the 'transfer' of the body. (92) This spiritual double, which is separated from the inner man after his death and survives him, remains for Plato, just as it was for the Pythagoreans and Empedocles, a daemon, (93) a divine principle whose function it is to tie our individual destiny directly to the cosmic order. In effect, each immortal soul is linked with a star to which the demiurge has allotted it and to which it returns once it has been purified through remembering. (94)

For each individual it is the soul that defines what he really is. But at the same time the number of souls, which is equal to that of the number of stars, always remains the same, never increasing or decreasing, despite the never-ending renewal of the human generations. (95) In a passage in the 'Phaedo', Plato justifies this constancy in the number of souls with an argument that explains the balance in his system between soul, time and memory. (96) If each individual at birth brought with it a new soul instead of allowing the soul of a dead man to be reborn for a new cycle, there would be no other time for men except that linear time which flows without return from birth to death, and which, for Plato, is the expression of pure disorder, and leads to chaos. (97) By contrast, a fixed number of souls - like a fixed number of stars in nature or a fixed number of homes in the city (98) - implies that human life follows a circular course which makes it possible to integrate it within the order of cyclical time encompassing nature, society, and the existence of the individual.

Memory in Plato loses its mythical aspects: *anamnesis* no longer brings the memory of previous lives back from the beyond. But nevertheless, in its relationships with the category of time and the concept of the soul, it retains a function similar to that which was exalted in myth. It does not seek to know the past as such. It does not seek to organize temporal experience; it seeks to pass beyond it. It becomes instrumental in a struggle against human time revealed as pure flux, like the realm of πάντα ῥεῖ in Heraclitus. Against this human time it

sets the conquest, through *anamnesis*, of knowledge that can transform human existence by connecting it to the cosmic order and divine immutability. As soon as individual salvation becomes a preoccupation, man seeks to achieve it by integrating himself with the whole. What he asks of memory is not knowledge of his own past but the means to escape from time and be reunited with the divine.

One conclusion emerges from our analysis of the myths concerning memory and the remaining traces of them in early Greek philosophy. There is not necessarily a link between the development of memory and the progress in a consciousness of the past or any interest in the past as such. A kind of intoxication at the power of memory can be discerned at the dawn of Greek civilization, but the memory in question has quite a different purpose from our own, and it serves different ends.

The image of memory that is reflected by myths and the function that these assign to it are not gratuitous. They are, as we have seen, linked with most specific techniques of memorization, practised within esoteric groups for particular purposes. In the brotherhoods of the bards these are a part of the apprenticeship in poetic inspiration and in the 'second sight' that this procures. In the circle of the *magi* they are a preparation for the achievement of divine ecstasy. In the religious or philosophical sects they are included in the spiritual exercises of purification and salvation. Taken out of the institutional framework and mental context to which they belong, these techniques of memorization lose their meaning and become pointless. They no longer have a place in our own organization of memory which is directed towards acquiring knowledge of man's individual past.

The distance between these archaic forms of memory and memory today is very great. To arrive at the latter it was not enough merely that ancient techniques of memorization should disappear. Mental tools had to be forged that allowed a precise knowledge of the past to be gained and with it an accurate chronology and a rigorous ordering of time. Because Greek civilization never forged these new tools, as soon as it had stripped memory of its mythical powers, it judged it to be only of subordinate importance. As the relationships between memory on the one hand and time and the past on the other became defined, the first was to lose the prestige with which it had originally been surrounded. (99) In Aristotle, for example, a distinction is drawn between memory, μνήμη, and recollection, ἀνάμνησις, the former being simply the ability to preserve the past, and the latter its deliberate and

effective recall. (100) But both are necessarily linked with the past. Both are conditional on a lapse in time. They imply the existence of a distance in time, a distinction between 'earlier' and 'later'. (101) Accordingly, in Aristotle we remember and perceive time through one and the same faculty. (102) It is therefore only 'by accident' that memory is connected with the faculty of thinking; it is really attached to the faculty of perception, and this explains how it is that a host of other animals apart from men possess *mneme*. (103)

Once memory is no longer concerned with being itself, but rather with the determination of time, it is demoted from the place it formerly occupied at the top of the hierarchy of faculties. It is now no more than a πάθος of the soul, which, by its union with the body, is plunged into the flux of time. There is a radical incompatibility between intellectual activity - νόησις - and the apperception of time, and this cuts memory off from the intellectual part of the soul and brings it down to the level of the sensitive part.

In Aristotle there is no trace of the *mnemosyne* of myth nor of the exercises in memorization whose function was to liberate the soul from time and open up a path to immortality. Memory now appears as included within time, but it is in a time which remains resistant to being understood, for Aristotle as for earlier writers. Memory, as a function of time, can no longer claim to reveal being and the truth. But nor can it ensure a true knowledge of the past. It is not so much the source within us of authentic knowledge as a sign of our incompleteness. It reflects the shortcomings of the human condition and our inability to be pure intelligence.

NOTES

1 'Journal de Psychologie' (1959), 1-29.
2 I. Meyerson, Le temps, la mémoire, l'histoire, 'Journal de Psychologie' (1956), 335.
3 The cult of *Eros* is widely attested; for that of *Aidos* at Sparta and Athens, cf. Pausanias 3. 20, 10 and 1. 17,1; Hesiod 'Works and Days' 200; for that of *Phobus*, at Sparta, cf. Plutarch 'Life of Cleomenes' 8 and 9; at Athens, 'Life of Theseus' 27; for *Pistis*, in Attica, cf. L.R. Farnell, 'Cults of the Greek States' (Oxford, 1896), 5: 481, note 248. For the deification of *Metis*, see Hesiod 'Theogony' 358 and 886 ff.; for *Ate*, see Homer 'Iliad' 9. 503 ff., 10. 391, 19. 85 ff.; *Apollodorus* 'Library' 3. 12,3,

and the tragedians; for *Lyssa*, Euripides 'Bacchae' 880 ff.

4 As is noted by Louis Gernet (Le temps dans les formes archaiques du droit, 'Journal de Psychologie' (1956), 3, 404), before writing is available the institution of the *mnèmôn* (the figure who is responsible for the remembering the past for the sake of legal decisions) depends upon putting faith in the individual memory of a living 'recorder'. Only later does the term come to refer to magistrates responsible for the preservation of written records. But the role of the mnèmôn is not restricted to the legal context. Gernet points out that it is derived from a religious practice. According to legend the *mnèmôn* acts as a servant to a hero. His function is to remind his master constantly of a divine task, forgetfulness of which would be punishable by death (Plutarch 'Greek Questions' 28). The *mnèmôn* may also have a technical function ('Odyssey' 8. 163), or a political-religious one (Plutarch 'Greek Questions' 4), or organization of the religious calendar (Aristophanes 'Clouds' 615-26). Gernet's remark proves to be valid on every level: 'One may well wonder whether at the stage when writing was introduced, the function of memory was not already starting to decline.'

5 Hesiod 'Theogony' 54 ff., 135, 915 ff.

6 Cf. Pindar frg. 32 of the Puech edition 4. 213: Μαντευέο, Μοῖσα, προφατεύσω δ' ἐγώ. 'Give forth your oracles, O Muse, and I will be your prophet'; cf. also Plato 'Ion' 534e.

7 In particular, F.M. Cornford, 'Principium Sapientiae: The Origins of Greek Philosophical Thought' (London, 1952), 89 ff.

8 On poetry as *sophia*, cf. Jacqueline Duchemin, 'Pindare poète et prophète' (Paris, 1955), 23 ff. The poet refers to himself by the name of σοφὸς ἀνήρ, and σοφιστής ('Isthmians' 5. 28).

9 'Iliad' 1. 70; Hesiod 'Theogony' 32 and 38.

10 'Iliad' 2. 484 ff.; 'Odyssey' 8. 491; Pindar 'Paeans' 10. and 6. 50-8, Puech edition 4. 133 and 120; 'Olympians' 2. 94 ff.

11 Plato 'Ion' 535bc.

12 The poet asks the muses to take up the story from a particular point and then to follow the sequence of events as faithfully as possible, cf. 'Iliad' 1. 6: 'Start from the day when first a quarrel divided the son of Atreus and divine Achilles.' Note also the phrase: 'And now tell me, Muse, who was the first....' 'Iliad' 11. 218, 14. 508 passim.

13 Cf. A. van Gennep, 'La question d'Homère' (Paris, 1909), 50 ff.; Milman Parry, The Traditional Epithet in Homer, and Homeric Formulae and Homeric Metre, 'The Making of Homeric Verse' (Oxford at the Clarendon Press, 1971), 1-191, 191-239; A. Severyns, 'Homère, le poète et son oeuvre' (Brussels, 1946).

14 The facts about Celtic bards are better known. The Welsh bard and the Irish fili pass through a series of stages, tested by trials which include magic practices and exercises in prophecy. J. Vendryes writes: 'Their studies lasted for several years, during which time the apprentice poet was initiated into the knowledge of the historical, genealogical and topographical traditions of the country, and also into the use of metre and all the poetic skills.' Teaching was given by the master in places of retreat and silence. The pupil was trained in the art of composition in low rooms with no windows, in total darkness. It is because of this habit of composing in the dark that one poet describes himself as follows: 'with his eyelids drawn like a curtain to protect him from the light of day' ('Choix d'études linguistiques et celtiques' (Paris, 1952), 216 ff.).

15 Parry writes that for Homer, as for all bards, versifying meant remembering. And Fernand Robert notes: 'The bard is reciter, and his entire poetic language, sprinkled with often very ancient formulae may well be considered, as may metre itself, as a technique of memorization' ('Homère' (Paris, 1950), 14). On the relation between recitation and improvisation, cf. Raphael Sealey, From Phemios to Ion, 'Revue des études grecques', 70 (1957), 312-52. It will be noted that in Plato ('Ion' 535b and 536c) the rhapsodist Ion, who is purely a reciter, is none the less presented as a man inspired, possessed by the divine *mania*. On the role of rhythm as an aid to memory in oral composition, cf. Marcel Jousse, Études de psychologie linguistique. Le style oral rythmique et mnemotechnique chez les verbo-moteurs, 'Archives de Philosophie' (1924).

16 Homer 'Iliad' 2. 484 ff.

17 Even if, as has been suggested, Homer's fondness for inventories is to be compared with that of the scribes of the Mycenaean tablets, he would be modifying, not merely continuing, a tradition; cf. T.B.L. Webster, Homer and the Mycenaean tablets, 'Antiquity', 29 (1955), 10-14.

18 Herodotus 2. 53.

19 Cf. H. Munro Chadwick and N. Kershaw Chadwick, 'The Growth of Literature' (Cambridge, 1932), 1: 270 ff.

20 Hesiod 'Theogony' 28.
21 Ibid. 45 and 115.
22 The race of gold lives forever young and has a sudden death; the race of silver remains in childhood for a hundred years and all of a sudden grows old, once the threshold of adolescence is crossed. The age of iron will, before being destroyed, be born old with its hair already white; Hesiod 'Works' 109 ff.
23 Cf. Hesiod 'Theogony' 100, the expression: κλέεα προτέρων ἀνθρώπων.
24 Ibid. 713 ff., 868.
25 Hesiod 'Works' 120 ff., 140 ff., 152 ff., 168 ff.
26 The gods are the *genos* of those who exist forever, αἰὲν ἐόντων.
27 Homer 'Odyssey' 10. 515 ff., and 11. 23 ff.
28 René Schaerer (La représentation mythique de la chute et du mal, 'Diogènes', 11 (1955), 58 ff.) rightly saw that in the 'Theogony', while, for the gods, time runs toward order and finally reaches stability, the time of men runs in the opposite direction and finally tends to tip over into death. This disparity is one of the poem's lessons.
29 Hesiod 'Works' 176 ff.
30 Hesiod 'Theogony' 55 and 102 ff.
31 Pausanias 9. 39. It should be noted that at Lebadeia the ritual bears all the marks of an initiation ceremony. This is half-way between the consultation of an oracle and revelation in a mystery.
32 Cf. Erwin Rohde, 'Psyche' (New York, 1966), 543.
33 Hesiod 'Theogony' 1216; Aristophanes 'Frogs' 186.
34 Apollonius Rhodius 'Argonautica' 1. 643 ff.
35 Tiresias: Homer 'Odyssey' 10. 493-5; Amphiaraus: Sophocles 'Electra' 841.
36 This is why, in Plutarch, the consulting of Trophonius is presented, not as if this were an ordinary oracle, but as bringing revelation of the fate of souls after death. In the cave Timarchus receives, in the form of images, teaching in the eschatological doctrines and in the myths of reincarnation ('On the Genius of Socrates' 590 ff.).
37 Cf. R. Turcan, La catabase orphique du papyrus de Bologne, 'Revue de l'histoire des religions', 150 (1956), 136-73. The author notes the use of such a term as κρυερός which normally applies to Hades (Hesiod 'Works' 1153) to indicate the earthly world.
38 Cf. Pindar frg. 131: the soul (the image of our being, our 'double', αἰῶνος εἴδωλον) sleeps while our limbs are active, but while they sleep it reveals the future to us; and Aeschylus 'Eumenides' 104: during

sleep the soul is all illuminated by eyes to which the gift of sight is denied when the day comes; cf. also Cicero 'De Divinatione' 1. 63, and 'Tusculanes' 1. 29.

39 Plato 'Phaedrus' 248c.

40 Cf. G. Murray, 'Four Stages of Greek Religion' (New York, 1912), 45-6; R.B. Onians, 'The Origins of European Thought About the Body, the Mind, the Soul, World, Time and Fate' (Cambridge, 1954), 427 ff.

41 In his commentary on Plato's 'Timaeus' 42c, Proclus writes of the soul being 'led to the blessed life, ceasing its peregrinations in the sphere of becoming ... a life that is deliverance from the cycle and rest far from evil' (Otto Kern, 'Orphicorum Fragmenta' (Berlin, 1963), 2: frg. 229.

42 Diogenes Laertius 'Life of Pythagoras' 8. 14: 'The soul is said to revolve following the changing wheel of necessity, κύκλον ἀνάγκη ἀμείβουσαν, now united to one animal and now to another.' Cf. Jane Harrison, 'Prolegomena to the Study of Greek Religion' (Cambridge, 1903), 589, 4th end, New York, 1957.

43 Simplicius writes (Aristotle 'De Caelo' 2. 1, 284a 14): 'The soul is chained to the wheel of necessity and of birth, ἐν τῷ τῆς εἱμαρμένης τε καὶ γενέσεως τροχῷ, from which, according to Orpheus, it is impossible to escape except by winning the approval of the gods to whom Zeus has entrusted the power of liberating a soul from this cycle κύκλου τ' ἀλλῆξαι, and of granting rest far from evil' (Kern, 'Orphicorum', frg. 230). The texts of Proclus and Simplicius are quoted and commented on in Onians, 'Origins', 452, and W.K.C. Guthrie, 'Orpheus and Greek Religion' (New York, 1966), 166.

44 Plato 'Gorgias' 493c. We know that, in Plato, the unfortunate drawers of water are not yet assimilated with the 'Danaides'. He is dealing with the uninitiated, *amuetoi*, or *atelestoi*. It is in the 'Axiochus' that we find the expression Δαναίδων ὑδρεῖαι ἀτελεῖς (371e).

45 See the text of the plates, published in H. Diels and W. Kranz, 'Die Fragmente der Vorsokratiker' (1903), Berlin, 1B: 17-22, 7th edn, 1956; Kern, 'Orphicorum', 104-9; cf. also G. Murray, Critical Appendix on the Orphic tablets, in Harrison, 'Prolegomena', 659 ff.; P.-M. Schuhl, 'Essai sur la formation de la pensée grecque' (1934), Paris, 239 ff.; 2nd edn, 1949; Guthrie, 'Orpheus', 193 ff.

46 Plato 'Republic' 613b ff.

47 Cf. A. Cameron, 'The Pythagorean Background of the

Theory of Recollection' (Columbia University, Wisconsin, 1938).

48 This idea that the soul has paid the price of injustice - ποινὰν δ' ἀνταπέτεισ (α) (= Diels, 'FVS', 1: 16, 23) - can be compared to the Pythagorean definition of justice: τὸ ἀντιπεπονθός, that is to say: ἅ τις ἔποίησε, ταῦτ' ἀντιπαθεῖν; Aristotle 'Nichomachean Ethics' 1132b. 21 ff.; cf. Rohde, 'Psyche', 397, Note 44.

49 Cf. Plutarch 'Vit. Rom' 28 and 'De Defectu Oraculorum' 414bc: human souls rise successively from mortal men to heroes, then from heroes to daemons, and finally, when they are totally purified and consecrated, from daemons to gods; cf. Harrison, 'Prolegomena', 504.

50 The concept of an 'ancient fault' may operate in three ways that are not always easy to distinguish clearly: (1) the crime of an ancestor that continues to weigh like a curse upon the whole line of descendants; (2) the crime committed in a previous life by an individual; (3) the crime committed against the gods by the human race, for which each man must pay the price. The theme unifying these different cases is the central one of a sacrilegious fault seen as a contagious source of defilement which is passed on from generation to generation, and from which men gain deliverance either by purificatory rites or by adopting a particular rule of life.

51 The text: ποινὰν παλαιοῦ πένθεος (literally: the price of blood, the ransom which pays for an ancient bereavement) seems to refer to the murder of Dionysius Zagreus, committed by the Titans, for which human beings must pay the price to Persephone, the mother of Dionysius. If this is so, it represents the first example of the myth of Dionysius being dismembered by the Titans who are the ancestors of the human race; cf. H.J. Rose, The Ancient Grief, 'Greek Poetry and Life: Essays Presented to Gilbert Murray on his 70th Birthday' (Oxford at Clarendon Press, 1936); The Grief of Persephone, 'Harvard Theological Reivew', 36 (1943), 247 ff.; contra, in particular, I. Linforth, 'The Arts of Orpheus' (Berkeley and Los Angeles, 1941), 345-50.

52 This fragment of Pindar is known to us from Plato 'Meno' 81b.

53 Empedocles 'Purifications' frg. 115, based on the French translation of Battistini, 'Trois contemporains. Héraclite, Parménide, Empédocle' (Paris, 1955).

54 Ibid. frg. 146-7.

55 Ibid. frg. 112; cf. Rohde, 'Psyche', 412, note 4, and Schuhl, 'Essai', 300 ff.
56 Empedocles 'On Nature' frg. 2.
57 Ibid. frg. 8, 9, 15, 17, 29.
58 Empedocles 'Purifications' frg. 117.
59 Ibid. frg. 129.
60 Cf. Rohde, 'Psyche', 406, note 96, and Louis Gernet, Les origines de la philosophie, 'Bulletin de l'enseignement public de Maroc' (1945), 8.
61 Cf. Rohde, 'Psyche', 375, and, in appendix, excursus 10, on the previous births of Pythagoras, 598-601.
62 Cf. Schuhl, 'Essai', 251; Gernet, Les origines, 8.
63 Cf. A. Delatte, 'Études sur la littérature pythagoricienne' (Paris, 1915), 67; Schuhl, 'Essai', 251.
64 Proclus, on Plato's 'Timaeus' 1. 124. 4, quoted by Delatte, 'Études', 67.
65 Empedocles 'Purifications' frg. 129.
66 Plato 'Phaedo' 65c, 67c, 70a; cf. also 'Republic' 9. 572a ff.
67 Gernet, Les origines, 8.
68 Ibid., 8; cf. Aristotle 'De Anima' A5, 410b 28, to be compared with the 'De Spiritu' 482a 33 ff.; Iamblichus in 'Stobaeus' 1. 49. 32, t. l. 366, w.; Porphyry 'Letter to Marcella' 10; Diogenes Laertius 8. 28-32. Note the parallelism between the expressions of the 'Phaedo' and those of Diogenes Laertius who reproduces the 'Pythagorean Memoirs' after Alexander Polyhistor. Having stated that the veins, arteries, and nerves are the links of the soul, the author adds: 'When the soul grows strong and rests, collected into itself, its own words and actions become its links.' The soul is conceived as a πνεῦμα which can circulate through the channels of the arteries, veins and nerves. When withdrawn into itself, instead of being united with the body it is enclosed in its own words, the λόγοι which we are earlier told are breaths, ἀνέμοι; cf. A.-J. Festugière, Les Mémoires pythagoriques, cited by Alexandre Polyhistor, 'Revue des études grecques' (1945), 1-65; L'âme et la musique, 'Transactions and Proceedings of the American Philological Association', 85 (1954), 73.
69 Cf. Rohde, 'Psyche', 299 ff.; Schuhl, 'Essai', 244 ff.
70 Aristotle 'Rhetoric' 3. 17, 10.
71 Aristotle 'Problemata' 916a 33; cf. A. Rostagni, 'Il verbo di Pitagora' (Torino, 1924), 96-9, 132-42, 153 ff., and Gernet, Les origines, 8. Gernet has drawn our attention to an interesting remark made by

Aristotle at 'Physics' 4. 218b 24-6. Aristotle explains in his own way, that is, from a rationalist point of view, the phenomenon of the arrest or abolition of time which comes about at the oracle of Sardes when the consultants stretch themselves out to sleep next to the tombs of the heroes: it seems to them that no time has passed between the moment they lie down, for the incubation, and the moment when they wake up: 'in fact they link together, συνάπτουσι, the instant before and the instant after and make them into one, ἓν ποιοῦσιν.' For a purely physiological interpretation of the text of Alcmeon, cf. C. Mugler, Alcméon et les cycles physiologiques de Platon, 'Revue des études grecques' (1958), 42-50. The same interpretation had already been proposed by Cameron, 'Pythagorean', 39 and 58. In our own opinion, however, Alcmeon's expression should be compared with Plato 'Timaeus' 90 bc.

72 Aristotle 'Physics' 4. 13, 222b 17; cf. Schuhl, 'Essai', 251.

73 We are here making direct use of material from Gernet's unpublished lectures on Orphism, given at the Hautes-Études in February 1957.

74 Diels and Kranz, 'Fragmente', 1: 47, note 2.

75 Cf. Guthrie, 'Orpheus', 79 and 84 ff.; Schuhl, 'Essai', 232 ff.

76 On androgyny as a symbol of primeval unity, cf. Marie Delcourt, 'Hermaphrodite. Mythes et rites de la bisexualité dans l'antiquité classique' (Paris, 1959), 105 ff.

77 Cf. Aeschylus 'Prometheus' 137 ff.; compare with Hesiod 'Theogony' 790; Homer 'Iliad' 14. 200; Porphyry, schol. to 'Iliad' 18. 490.

78 These relationships between Oceanus and Chronos are well described in Onians, 'Origins', 250 ff. Compare Aeschylus 'Prometheus' 137 ff. with Euripides frg. 594, Nauk, and with Plutarch 'Quaest. Plat.' 8. 4.

79 Cf. Bruno Snell, 'Die Entdeckung des Geistes. Studien zur Entstehung des europäischen Denkens bei den Griechen' (3rd edn, Hamburg, 1955). On the subject of lyric poetry and the image of man expressed in it, the author believes it feasible to speak of a 'rise of the individual'; cf. also Schuhl, 'Essai', 160.

80 In the famous passage in the 'Iliad' 6. 146 ff., on human life, the context in which his pessimism is expressed is still cyclical: 'Just as are the generations of leaves, so are those of men. With the leaves there are some that are cast to the ground by

the wind, but the luxuriant woods bring forth more, and the season of spring returns; similarly with the generations of men: one grows while the other is dying....' The same theme, when taken up by Semonides and by Mimnermus, strikes a different note because it is focused not on the sequence of the generations but on what the inexorable flow of time means for each individual.

81 Alongside time in lyric poetry we must consider tragic time. Goldschmidt writes: 'Tragic time is linear; everything that takes place within it involves the future, and whatever action is completed within it, whether despairing or happy, usurps eternity....' in Le problème de la tragédie d'après Platon, 'Revue des études grecques', 61; 58. On the general problem of the relationships between the cyclical and the linear images of time among the Greeks, cf. C. Mugler, 'Deux Thèmes de la cosmologie grecque. Devenir cyclique et pluralité des mondes' (Paris, 1953).

82 Cf. E. Benveniste, Expression indo-européenne de l'éternité, 'Bulletin de la Société de Linguistique', 38, fasc. 1, 103-13.

83 Cf. Rohde, 'Psyche', 398, note 50.

84 Cf. Harrison, 'Prolegomena', 599 ff.; Guthrie, 'Orpheus', 208 ff.; Onians, 'Origins', 452.

85 We may recall the Pythagorean tradition according to which the Monad and the Decad, as principles of unity and totality presiding over the organization of the cosmos, were identified with *mneme* and *mnemosoyne*; (Iamblichus) 'Theologumena Arithmeticae' 81, 15; Porphyry 'Life of Pythagoras' 31; cf. Cameron, 'Pythagorean', 52; Brother Cumont, Un mythe pythagoricien, chez Posidonius et Philon, 'Revue de philologie', 43 (1919), 78-85.

86 Cf. Delatte, 'Études', 69; Schuhl, 'Essai', 251.

87 Cf. Rohde, 'Psyche', 382 ff.; Rostagni, 'Il verbo', 100 ff.

88 L. Robin has successfully shown that in Plato the theory of *anamnesis* provides the answer to new problems, of a strictly philosophical nature; cf. Sur la doctrine de la réminiscence, 'Revue des études grecques', 32 (1919), 451-61.

89 Even though *anamnesis* takes place in time (cf. ibid. 459, and 'Symposium' 208a), it nevertheless has as its object a reality that is intemporal, which the soul is able to contemplate outside the time of human life ('Meno' 86ab; 'Phaedo' 72e, 75b ff., 76a). There may be a *mneme* of the sequence of events which

constitute our present life, but this is no longer a true knowledge ('Republic' 7. 516cd; 'Gorgias' 501a). However, see 'Philebus' 34b, where *mneme* and *anamnesis* seem rather to be opposed to each other, as the virtual to the actual; and 'Laws' 5. 732b. Both passages give *anamnesis* a meaning which is more psychological than ontological.

90 Plato 'Republic' 589a; 'Alcibiades' 130c; cf. V. Goldschmidt, 'La Religion de Platon' (Paris, 1949), 68.

91 'Phaedo' 115c ff.

92 Maurice Halbwachs, La représentation de l'âme chez les Grecs. Le double corporel et le double spirituel, 'Revue de metaphysique et de morale' (1930), 493-535.

93 'Timaeus' 90a and 90c.

94 'Timaeus' 41d-e; 'Phaedrus' 248a-c and 249a.

95 'Republic' 611a; 'Timaeus' 41d.

96 'Phaedo' 72ab.

97 The living, Plato says, come from the dead no less than the dead from the living. If there were not this perpetual circular compensation and 'if, on the contrary, generation followed a straight line going from one contrary only to that which opposed it directly (that is to say, going exclusively in the direction of life towards death), if it did not then turn back towards the other and execute this reversal,' the world would continue towards chaos and death: 'Phaedo' 72bc.

98 'Laws' 737c ff.; 740c ff.; cf. Goldschmidt, 'La Religion', 117-19.

99 Owing to our lack of documentation we can do no more than mention the problem of the place of the techniques of memorization in the teaching of Hippias. One must, however, recognize that there is a connection between these and his encyclopedic ideal of polymathy and his claim to universal knowledge (cf. Plato 'Hippias Minor' 368b ff.). For this reason we might be tempted to see in Hippias's techniques of memorization the transposition and secularization of the power of omniscience traditionally connected with *mnemosoyne*. Hippias's boast is that he himself possesses and can procure for his pupils the omniscience that the deity used to bring to the bard in the form of an inspired vision. He claims to be able to do this thanks to techniques of memorization which for him have a purely positive character and can be taught to others (cf. 'Hippias Major' 285d). Actually, Hippias is only following in the footsteps of a

poet. The Greeks in fact attributed the origin of the *technè mnèmonikè* to the lyric poet, Simonides (Souda 'Lexicon': Simonides; Longinus 'Rhetoric' 1. 2, 201; Cicero 'De Fin.' 2. 32). It will be noted that there are two features in Simonides which can throw light on this secularization of the techniques of memorization and also on the moment when this took place: first, Simonides may have perfected the alphabet and invented new letters making a better written notation possible; second, he may have been the first to be paid for his poems, practising poetry as a profession, to earn money.

100 Aristotle 'De Memoria' 449b 6 and 451a 20.

101 Ibid. 449b 14; b 27; 450a 20; 451a 29; 452b 8 ff.

102 Ibid. 449b 29.

103 Ibid. 450a 13 ff.

4 The River of Amélès and the Mélétè Thanatou

The 'Republic' closes with the description of a landscape in the underworld. At the end of his journey through the beyond, Er the Pamphilian comes upon the plain where, in suffocating heat, the souls wait at the last stage before being sent back to earth for a new incarnation. The picture is in keeping with an entire tradition by which Plato is directly inspired. He did not invent Lethe, the arid plain of oblivion nor the parched souls nor the cool water flowing from a spring with supernatural powers. However the name of Amélès which Plato gives to the underground river where the souls come to drink and where they lose all their memories is not, as far as we know, to be found in any other description of the world of the dead before the 'Republic'. What is the exact meaning of the term? What is the reason for its presence in Plato's account? What is the connection between the river Amélès in the 'Republic' and the fountain of oblivion that appears in mystical literature? (2) (This is the fountain from which the soul must be able to turn aside in order to draw from the lake of memory the water which, by liberating it from the wheel of rebirths, mercifully brings it blessed immortality in the company of the heroes and the gods.)

When Louis Robin translates Amélès by 'free-from-care (sans-souci)' he appears to see what amounts to only a tenuous link between *améleia* and *lethe*: if oblivion submerges those souls that have drunk immoderately from the river Amélès this is because all 'anxiety' within them has disappeared. (3) Being henceforth contented with their earthly life, at ease in the prison formed by the body into which they have been cast, they desire nothing further and are satisfied with an ignorance of which they are no longer even conscious. This notion must be placed in the framework of Platonic thought: there, *améleia* should be seen as the opposite of that mental anxiety,

that unease of the soul, which, like Socrates himself, the philosopher aims to arouse.

However, it is not certain that this is really the sense of the term. One may well wonder whether the connection between the plain of Lethe and the river Amélès is not closer, and whether, on this point too, Plato has not so much introduced an innovation as rather collected and modified a tradition in which the themes of *mélétè* and *améleia* were very closely associated with the myths of memory and oblivion. (4)

Pausanias tells us the names that the Muses of Helicon had, according to most ancient tradition, when there were still only three of them. They were called Mélétè, Mnèmè, and Aoidè, Exercise, Memory, and Song. (5) We know that Mnemosoyne, the mother of the Muses, presided over the poetic function and that the brotherhoods of bards assigned an important place to memory exercises which prepared the way for that 'inspired vision' necessary, in oral poetry, for a form of composition which was a mixture of recitation and improvisation. (6) It is therefore not surprising that, alongside song in the list of the Muses, we should find memory and a *mélétè* in which we are bound to recognize the practice of a mental exercise, a training in memory necessary for apprenticeship in poetic technique. This *mélétè* appears again, still associated with the cult of the Muses, (7) in the brotherhoods, like those of the Pythagorean sect, which engaged in philosophical thought. In this new milieu it acquired a wider significance. It was no longer restricted to the acquisition of a particular kind of knowledge but trained men for *arete*, or human excellence in general. It operated on two levels: in the context of the individual it was an *askesis* bringing salvation through the purification of the soul, while in the context of the city it was a *paideia*, educating the youth in virtue and preparing those who were most worthy for the exercise of sovereignty in accordance with justice. This double character brings philosophical 'discipline' close, on the one hand to the religious way of life dear to the mystic sects who were only concerned with the salvation of the individual, paying no attention to the political domain; (8) and on the other, to the collective training founded essentially upon military tests and exercises, αἱ τῶν πολεμικῶν μελέται. (9) In the warrior societies of Greece these tests represented an early educational system to select the young according to their aptitude for the exercise of power. (10) However, the philosophical *mélétè* is distinguished by the fact that it substitutes in the place of

ritual observances and military exercises a truly intellectual education, a mental schooling in which the emphasis is laid above all, as in the case of the poetic *mélétè*, upon a training for the memory. The philosophical *mélétè* is a virile virtue, and like the warrior *mélétè*, it involves tense concentration, constant attention, *épiméleia*, and hard work, *ponos*. (11) In a traditional version of the *arete* which is reflected in the myth of Heracles at the crossroads of vice and virtue, it is set in opposition to relaxation and lack of training, *améleia* and *amélétèsia*, to laziness, *argia*, softness, *malachia*, and pleasure, *hèdonè*. (12) But in the case of the philosophical *mélétè* the exercises and training concern the soul and the intelligence, not the body. To be more specific, and to borrow the words of Iamblichus himself when defining the Pythagorean *askesis*, it is a matter of a γυμνασία καὶ ἐπιμέλεια μνήμης, an exercise and training for the memory. (13) On two occasions Iamblichus emphasizes the great value placed by the Pythagoreans upon the effort of recollection for the purpose of winning wisdom. On the first occasion he suggests that the *anamnesis* of previous lives with which Pythagoras was traditionally credited was the source and principle of his teaching. (14) A little further on he reminds us that the Pythagoreans were under an obligation to commit everything to memory, never losing their hold on anything once learned, seen, or heard, and he interprets the daily examining of conscience which was a rule for the sect as a memory exercise. (15)

The 'Golden Verses' give some interesting details about this exercise in soul-searching. It was forbidden to give oneself up to the sweetness of sleep in the evening before passing in review all the actions of the day, starting with the first and considering each one in turn right through to the end. (16) This was a difficult task and the disciple was encouraged to undertake it with the following words: 'Ταῦτα πόνει, ταῦτ' ἐκμέλετα ..., it is necessary for you to make this effort and accomplish this exercise.' The text goes on: 'You must love to do it, and it will set you on the track of divine virtue (17) ... you will no longer hope for what is beyond hope, and nothing shall be hidden from you, μήτε τι λήθειν.'

In his commentary Hierocles notes that the poet exhorts us to examine all the actions of the day, even the most insignificant, taking them in order from the first to the last, without overlooking any in between. The reason for doing this is, he says, that this *anamnesis* of the events of our daily lives is an exercise which can recall our previous lives to mind; it is a μελέτν τῶν προβεβιωμένων

ἀναπολήσεως. Continuing his comment, Hierocles suggests that the ἄσκησις τῆς ἀρετῆς of the Pythagoreans depends upon three powers, *dunameis*, of the soul: *ponos*, *mélétè*, and *eros*, *mélétè* being defined as a training imposed upon the rational part of the soul whose function is to *noein*. In his dialogue on 'The Education of Children' Plutarch also emphasizes the importance of *mélétè*, in association with *ponos*, in the *paideia*. (18) The passage has a polemical purpose. Plutarch is attacking those who give more importance to nature than to study and exercise for *arete*. They imagine that a bad character cannot be corrected by a μελέτη ὀρθὴ πρὸς ἀρετήν. But in this they are totally mistaken: *améleia* ruins the best of souls just as it does the best land and the healthiest body, while *épiméleia* and *ponos* are both fertile and productive. Thanks to them,what was contrary to nature wins out in the end over what was according to nature: 'Even easy things elude those who do not practise while difficult things are obtained through painstaking care.' (19) It is the very banality of Plutarch's text that makes it so interesting. He is defending a commonplace concerning the often discussed theme of the respective advantages of nature and of study. Now, on this problem a boundary separating the position of the philosophers from traditional poetry must have become apparent very early. The poets - not just Pindar, but even as early as Homer - put the accent upon personal talents and inspiration to the detriment of apprenticeship and study. In contrast, a man such as Epicharmus, whose links with Pythagorean thought are well known, upholds the opposite point of view in a pronouncement to which Plutarch's text appears to be a commentary: 'ἁ δὲ μελέτα φύσιος ἀγαθᾶς πλέονα δωρεῖται, φίλοι.' Exercise brings forth more than natural talent does. (20) In Epicharmus this praise of *mélétè* and its fruits goes hand in hand with the exaltation of *ponos*, and a warning against the dangers of softness, *malachia*, and pleasures. (21)

In Plutarch the dialogue continues with a paragraph which has an exact equivalent in Pythagoras's speech to youth as it is reported by Iamblichus. We have therefore all the more reason to evoke Pythagorean themes at this point. Plutarch writes that, for men, all goods are unstable and inconstant; only *paideia* represents a definitive gain which remains 'immortal and divine' in us for only the mind grows stronger as it grows older, and time which destroys and disperses all things adds knowledge to old age. (22) The same opposition between enduring and fleeting good is to be found in Iamblichus. According to him, when Pythagoras was praising *paideia* to the *nèoi*, he

compared corporeal good and the *épiméleia* of the body with faithless friends who desert us at the first opportunity; the fruits of *paideia*, on the other hand, last until death and for some people even bring an eternal glory beyond death. While other goods, if they are to be transmitted, must first be relinquished by whoever possesses them, *paideia* can never be exhausted by being exchanged. Of all human things it is the only one that can be acquired and preserved forever: κτήσασθαι. (23)

Plutarch closes this part of his essay by describing memory as the storehouse, ταμιεῖον, of *paideia*, and by remarking that if Mnemosoyne has been called the mother of the Muses this is because there is nothing in the whole world able, as she is, to γεννᾶν καὶ τρέφειν, to make things grow and nourish them. (24) So we see clearly here that the theme of a good that can be stored up notwithstanding the destructive flow of time is linked with the doctrine that makes the effort of memorization the basis for intellectual discipline. We have then an image of memory as the inexhaustible granary of wisdom which defies the onslaught of time and in which the soul may find the food of immortality. We might imagine this to be the fruit of Plutarch's own imagination if it did not also appear in Empedocles in a context which directly evokes the Platonic themes of *anamnesis*, *lethe*, and *améleia*. Empedocles proclaims: 'Blessed is he who has acquired ἐκτήσατο, the wealth of divine *prapides*.' (25) *Olbios*, *ploutos*, and *ektèsato*: these terms associated with the idea of the divine could not fail to evoke in the mind of any Greek the figure of Zeus who bears the threefold description of being *ktèsios*, *plousios*, and *olbios*, (26) and who is indeed enshrined (27) in the storehouse in the shape of a vessel, ἀγγεῖον, a little barrel, καδίσκος, which is always filled with ambrosia, the drink of immortality. (28) The little barrel of Zeus's *ktèsios* is a symbol of constant health and abundance, and it watches over domestic goods and keeps all the riches of the house intact. Now, according to Empedocles, one divine man possessed this vast 'treasure' of *prapides*, and the ancients took him to be Pythagoras who had the power of preserving quite intact in his memory the remembrance of all the events of his previous lives. Empedocles tells us: 'When this man stretched his *prapides* (29) he could easily discern each one of the things that belonged to ten or even twenty human lives.'

Following Louis Gernet, (30) we have emphasized what the text of Empedocles allows us to understand concerning ancient beliefs and practices. To refer to intelligence, it uses the ancient term *prapides* which originally meant

diaphragm. In a phrase like 'stretching the diaphragm' we believed it possible to discern an echo of a practice resembling that of yoga, a discipline that was no doubt dependent upon some technique used to control breathing. This would account for the strange privilege attributed in legend to the magi, of being able, at will, to liberate their psyche, making it leave the body which would lie breathless and lifeless in a cataleptic trance; the psyche meanwhile journeyed in the beyond from which it brought back knowledge of the past, as did the soul of Epimenides. Under the influence of the new interests and ideas which emerged among the philosophical brotherhoods this discipline inducing ecstasy must have been transformed into a training for the mind, a *mélétè* in which three features were closely associated. These were: the attempt at recollection projected as far as possible into previous lives, the purification of the soul and its separation from the body, and escape from the flow of time by gaining access to a truth which was perfectly static. Is this not the kind of training that Plato describes in the 'Phaedo', before expounding his theory of *anamnesis* where, in agreement with what he calls a very ancient tradition, he defines philosophy as a *mélétè thanatou*, (31) a training or exercise for death, consisting in purifying the soul by concentrating it and collecting it together from every part of the body in such a way that, being thus collected together and isolated, it is able to release itself from the body and escape from it. (32) Purification, concentration, and separation of the soul: these are all terms which, for Plato, suggest recollection, *anamnesis*. This *mélétè thanatou* still has something of the character of a *mélétè mnèmes*, as is shown by the text of the 'Phaedrus' where Plato deplores the invention of writing. He suggests that, by substituting for the positive attempt at recollection, trust in marks which are outside the mind, writing allows forgetfulness to infiltrate into the soul through *amélétèsia mnèmes*, that is through a lack of exercising the memory. (33) Furthermore, this is how, in his commentary, Proclus interprets *améleia*: 'The soul that has drunk immoderately from the river Amélès forgets all its previous lives; for having become enamoured of becoming it ceases to recall the unchangeable principles and forgets them, δι' ἀμελετησίαν καὶ ἀργίαν.' And he adds: 'Indeed, we need an exercise which can constantly renew the memory of what we have known, δεῖ γὰρ τῆς μελέτης ἀνανεούσης ἡμῖν ἀεὶ τὴν μνήμην ὧν ἔγνωμεν.' (34) Of course, this practising for death is, in fact, a training for immortality: by liberating itself from the body, which which Plato describes with the same images of flux and

flowing that he uses for becoming, (35) the soul emerges from the river of time and wins an unchanging and permanent existence as close to the divine as man is permitted to be. In this respect, the old mythical theme of *memnosoyne*, the source of inexhaustible life, the fountain of immortality, is transmitted to the Platonic *anamnesis* via the Pythagorean memory exercises. And when Plato describes, in the plain of Lethe, a river Amélès 'whose water cannot be retained by any receptacle, ἀγγεῖον οὐδὲν τὸ ὕδωρ στέγει', he is remaining faithful to the interpretation given to the myths concerning memory and oblivion in the philosophical circles of 'Magna Graecia'.

The reason why nothing can retain this water is that, being made to flow forever, it escapes φεύγει; it runs out of any receptacle into which it is poured, just as, according to Pythagoras, corporeal goods desert human beings, and just as this *épiméleia* of the body - or, in other words, *améleia* of the soul - runs through them. And Pythagoras opposes this *améleia* to the definitive acquisition to be obtained by the *mélétè mnèmes* that is the basis of *paideia*. True, in Plato, the river Amélès has taken on a truly metaphysical meaning. As well as representing the relaxation of a soul abandoning itself to pleasure instead of subjecting itself to the severe discipline of memory, in Plato - as Proclus notes - the river symbolizes the endless flux and reflux of becoming, whose terrible outflow, τὴν δεινὴν ἐκροήν, cannot be stopped by any receptacle or any existing thing. (36) And in the meantime the Pythagorean Paro had, according to Aristotle, already associated *lethe* closely with time, and, censuring those who saw Chronos as a wise divinity, had proclaimed him to be, on the contrary, the source of all ignorance. (37)

But perhaps we can pinpoint the origins of the mythical image of the river Amélès more precisely. This water that cannot be contained by any receptacle reminds one of the *amuètoi* in the 'Gorgias', where, in a similar fashion, the leaking vessels are unable to retain the water which flows out of them as soon as it is drawn. (38) Socrates tells us that these receptacles, as full of holes as a sieve, are the souls of those unfortunates, who, through forgetfulness and lack of faith, *pistis*, can retain nothing. And he adds that, according to the author of the myth - an Italian or a Sicilian - the *pithoi* refer to the part of the soul where the desires reside, because that part is docile and credulous, *pithanon* and *peisticon*. To Socrates's way of thinking this fable should convince Gallicles of his error in proclaiming that it is the ceaseless flow and the abundant flux of pleasures that

make life worthwhile. Socrates's reply is that this sort of life is terrible and monstrous, *deinon*, and should rather be called death. And to illustrate the same theme of the two kinds of life, the two *bioi* from which man must know how to choose the one which alone is trustworthy, Socrates recalls to mind another comparison which, he says, springs from the same *gumnasian* as the preceding one: the wise man is like a man who possesses barrels in a good state of repair which are full of things that are necessary to life and some of which are filled with rare and precious liquids which are difficult to come by, however hard one tries. (39) Once these barrels are full they remain so always. But the fool, the profligate, whom the author of the myth calls *amuètos*, only has rotten and leaky barrels to hold these liquids, and he has constantly to refill them to avoid terrible suffering.

The reference to life that is perhaps death, and the play on the words '*sôma-séma*' put us on to a new track which is substantiated by Plato's geographical references to Italy and Sicily. One might imagine that this was a Pythagorean text on the two *bioi*, on the theme of transitory and permanent goods. However there are several details in Plato's text which suggest that the reference is more precisely to Empedocles.

First, there is the contrast drawn between *peithô* and *pistis* which are connected with two different parts of the soul. *Peithô*, in fact, belongs to that part of the soul where the desires are located and which the author of the myth represents as a *pithos*. *Pistis* belongs to a different part of the soul which is this time symbolized by a sieve, *koskinon*, whose holes allow everything to escape, through a faulty memory and forgetfulness, *lethe*, but also through an absence of faith,

We should therefore recognize that *peithô*, which is condemned, and *pistis*, which is recommended, are evaluated differently and set on different levels. *Peithô*, associated with *hédonè* and *pothos*, is an ambiguous power which can be used for good, or, just as easily, for evil, (40) and it symbolizes the allure of pleasure, no doubt physical pleasure especially. (41) *Pistis* represents a different type of trust, faith placed in a superior deity whose revelations man must accept and whose teachings he must follow. The ambiguous phrases used by Plato are, moreover, associated with terms drawn from the mysteries. A word such as *amuètoi* means both what is not closed and also those who have not been initiated, who are incapable of 'retaining', *stegein*, the secret.

Now, the same opposition between *peithô* and *pistis* is also to be found in Empedocles. In his treatise 'On

Nature' he presents his teaching in the form of a revelation made to his disciple Pausanias of a secret like one of those of the mysteries, which will enable him to have command over the winds and bring back the soul of a dead man from the kingdom of the shades. The poem starts off with the theme of *pistis*: the understanding and destiny of men are extremely limited, their life is nothing but ignorance and misfortune; in what should they place their trust? Men allow themselves to be 'persuaded', πειστεντες, in accordance with their desires and are buffeted about in all directions. (42) Pausanias should not bestow his *pistis* lightly. (43) Does that mean that he should not bestow it at all? Not in the least, but he should seek higher, aiming at what is superior to men, at that which has power and authority over him, *kratos*. For to refuse one's trust, *apistein*, to something higher than oneself - in other words, to divine inspiration and teaching - is exactly what the wicked, *kakoi*, do. (44). Pausanias should therefore listen to the *pistômata*, the trustworthy proofs, of the Muse of Empedocles. (45) And the final recommendation is that he should keep secret the teaching thus revealed, he should 'retain' it, στέγειν, in the depths of his speechless heart. (46)

Another fragment from the end of the poem throws some light on the significance of these similarities which are too numerous and too precise to be coincidental. Here Empedocles places Pausanias at the crossroads of two *bioi* between which he must make a choice. If he pursues the thousands of inferior things in which men usually place their trust, (47) then very soon, with the unfolding of time, these things will abandon him (48) for they desire, ποθέοντα, to join up with their own kind again. If, on the contrary, with his πραπίδες firm, he concentrates steadfastly upon the teaching he has received, if he allows himself to be initiated, ἐποπτεύσηις, by holy exercises, καθαρῆισι μελέτηισιν, (49) then all these blessings will be forever his, and, possessing them, he will moreover be able to acquire many others, (50) for they increase of their own accord, each one according to its own nature.

The firm *prapides* and the holy exercises recall from the 'Purifications' the firm *prapides* of Pythagoras and the exercises that made it possible for him to recall all the details of his previous lives. Now, it seems to us that in the background to the text of the 'Purifications' one can discern, as a symbol of the treasure of constant wisdom, the image of Zeus Ktesius in the form of the receptacle, the little barrel containing the precious liquor of immortality. Thus, in Empedocles, the fortunate man

who has been successful in gaining the virtue of an initiate, comparable to incorruptible *ambrosia*, is contrasted with men who have a care only for corporeal goods which pass through them without becoming established within them, and which leave them forthwith, rushing away to reunite with similar elements, for water turns to water, fire to fire, and air to air. On the one hand, the wise man, who 'retains' in the depths of his heart teaching which is the source of life eternal, evokes the image of the barrel of Zeus Ktesius; on the other, the men who cultivate (*épiméleia*) the body and who are attached to goods which always flow away through them like a river suggest the image of the leaking *pithos* all the more readily because here we are dealing with an object which is already charged with religious significance, and, in the funerary cults, is the symbol of an existence cut short by death before it has reached fulfilment, while in the context of the mystery religions it symbolizes those unfortunates who have never been initiated. (51)

Had Empedocles already developed this myth in the form in which it is found in Plato? Did he explicitly compare the souls of the profligate with leaking barrels, and associate this image with that of a river of the underworld whose waters, that no receptacle can retain, cause those who drink from them to be forgetful of their former nature, to fall into the *kuklos génèseôs*, and to be reincarnated in a body? The problem is clearly insoluble. However, we must point out one last and striking similarity. (52) In Empedocles the fall of the daemons precipitates them into a dark cave, (53) in the meadow of Ate, and this is contrasted to their place of origin, the meadow of Aletheia, just as in Plato the plain of Lethe is opposed to the plain of Aletheia. (54) Ate and Lethe are two entities which can easily overlap in the mythical imagination. They have the same origin, both being descended from Night, Nux; (55) and they are both related to Darkness, Scotos: each is an image of the darkness which enshrouds the human spirit suddenly, enfolding it in shadows, hiding from it the straight way of truth and justice, and thus dragging it to its doom. (56) As well as being oblivion and the spirit of error they are criminal waywardness, ἁμάρτημα, and also the defilement, punishment, and death which result from this. (57) In the 'Purifications' the soul, wandering in exile in the plain of Ate, is a daemon which through criminal waywardness, ἁμαρτήσας, has become horribly defiled: it has shed blood or else sworn a false oath. (58) In both cases the outcome of the 'fault' is the same: strife, *neikos*, has arisen in the world of the gods which should know nothing

but pure friendship. Those who have given way to *neikos*, being momentarily devoted to hatred, are precipitated into this meadow of Ate where all the elements hate one another. (59) And if Empedocles himself is forced to wander far from the gods it is because he has allowed himself to fall under the spell of frenzied strife. (60)

The meaning of this text becomes clearer if we compare it with Hesiod's 'Theogony'. (61) Among the descendants of Nux, we find alongside Lethe and Ate, other children of Eris stugérè. They are, on the one hand, Murders and Strifes, Neikea, and, on the other, Horkos, Oath, who is the greatest scourge of the human race. At the end of the 'Theogony', Horkos appears as the water of the river of the underworld, the Styx, the *stugérè theos*, the deity hated by the immortals. (62) This water which falls from a steep rock and flows away through the black night is 'the great oath of the gods' to which, despite the great horror that it inspires in them, they have recourse each time that some conflict or discord, ἔρις καὶ νεῖκος, arises among them. On these occasions they seek out the water of the Styx so that it can settle their quarrel, and he who perjures himself, at the moment when, according to the rites, he sprinkles the water on the ground, is immediately struck down, breathless, and lies there on the ground for the whole of a great year. The foods of immortality, ambrosia and nectar, no longer pass his lips; he lies breathless and voiceless, and a cruel coma envelops him. (63) Once this trial is over, another, even harder, awaits him: for nine great years he dwells apart from the society of the gods and only at the end of this cycle can he resume his place among the immortals. Thus the wandering in the meadow of Ate of the daemons who have perjured themselves following some quarrel appears, in Empedocles, as the transposition of a mythical theme that centred on the water of the Styx which brought coma and exile about for the gods who were guilty of swearing a false oath.

It seems legitimate to assume that Plato, for his part, also had the water of the Styx in mind when he wrote of the river Amélès, for in the 'Republic' (64) as soon as the souls have drunk of the water from the river they fall asleep in a coma similar to that which envelops in darkness the erring gods of the 'Theogony'. And despite thunder and earthquakes the souls do not awake from it throughout the journey which carries them, like shooting stars, toward their births. Furthermore, following Heroditus, Pausanias describes a river which he has come across in the wild mountains of Arcadia and which the Greeks call the water of the Styx. (65) It flows from

the top of a huge, precipitous rock, between Pheneos and Nonacris, and thence joins up with the river Crathis. It is a water of death: no living creature, man or beast, can drink from it with impunity. Its destructive power is such that it shatters and punctures any receptacle made by the hand of man - whether it be made of glass, crystal, stone, or terra-cotta - and it erodes and dissolves those made from metal. It even attacks gold, despite the fact that gold is as incorruptible as the gods. Only the bone from a horse's hoof can withstand this power of destruction and retain the water poured into it - no doubt because the hoof of a horse is itself related to the sinister realm of what is impure. (66)

Not far from the Styx there is a grotto where, legend has it, the daughters of Proitos went into hiding when they were possessed by the frenzied delirium of mania. It was here that Melampos came and found them, to cleanse them from their defilement with secret purifying rites which he administered to them in a place called *Lousoi*, the baths, in the sanctuary of Artemis, the one who calms. And there is, indeed, another spring of fresh water just a little further on, next to which grows a plane tree, and which Pausanias explicitly connects with the first spring, contrasting them as good to evil, or remedy to suffering. (67) He who has been demented by a mad dog - and, more generally anyone who is a prey to the delirium of *lyssa*, in other words, to an attack of uncontrollable madness - finds a cure by drinking this water. For this reason the spring is known as Ἄλυσσος, the spring that dispels madness.

Thus Arcadia (at the time of Pausanias a veritable museum of antiquities) reveals to us, if not the origin of the myth about the two fountains of life and death, at least one of its least reconstructed versions and one that is still very close to actual religious practices. We have seen that the Styx, the river of the underworld, which possesses the power to defile and which brings destruction to everything in this world, became the river Amélès, which, for the soul, symbolizes its being forced into the body and into the temporal flux. But for this to happen it was necessary for the myth to undergo a long process of transposition in the religious brotherhoods and philosophical sects, at the end of which it reached its culmination in Plato.

It is true that the theme of the Styx lent itself to such a mythical reinterpretation. As a river of the underworld it had its place already marked out in the eschatological accounts describing the peregrinations of the soul after death. As the river of impurity,

contrasted with a fountain with cathartic properties, it corresponded to the major preoccupations of the religious sects, with their obsession with defilement and their thirst for purification. However, within the framework of mystical thought the legendary theme of two springs had to be fundamentally reconstructed before it could be an expression of the search for salvation, which, within the sects, had become the whole object of religious life. From this time onwards it is earthly existence which is seen as a defilement, as if it were the death of the soul after the blessed life, which, originally, it had shared with the gods. And conversely, as a purification against evil, the water of life no longer offers health and strength on this earth, but opens up for the soul a means of access to the true life beyond death. With this reversal in attitude, life becomes charged with the mythical values attached to death, and death acquires those hitherto associated with life. At the same time the two opposed fountains, of memory and oblivion, take over the place in the mystical texts that, according to Pausanias, was occupied, in Arcadia, by the river Styx and the spring of Alussos. In the myths of reincarnation the defilement that is brought by the water of death becomes, with the fall into a new corporeal existence, oblivion of all previous lives and ignorance of the soul's destiny. The purification bestowed by the water of life comes to mean the initiate's infallible memory concerning things in the beyond, the wisdom that will make possible his definitive escape from the cycle of becoming. Thus myth opened up the path that philosophical thought was to take. If the meaning of *Lethe* is a return to generation, if the impure life is that of becoming, this is because the temporal flux is itself a force of destruction, comparable to the Arcadian Styx - that fatal power of destruction that annihilates all things on this earth, the terrible flow that nothing can contain. (68) In these circumstances *mélétè mnèmes*, the practice of remembering, takes on within the philosophical brotherhoods the double significance of an intellectual investigation aimed at acquiring the most complete knowledge, (69) and at the same time a training for the salvation that will bring victory over time and death.

In the closing lines of the 'Republic' Plato rejoices that the *muthos* of Er the Pamphilian has not perished. Those who continue to believe in it will also have a chance of salvation: they will be able to cross the river Amélès without 'defiling' their souls. With this remark, Plato, who is half-serious and half-joking, acknowledges his own debt to legendary themes that he has modified and that

retain an incomparable power of suggestion, thanks to their deep roots in the religious past of the Greeks. Certainly, for him, philosophy has dethroned myth and taken its place, but one reason why philosophy is valid is because it has been able to preserve that 'truth' which was expressed, in its different way, by myth.

NOTES

1 'Révue philosophique' (1960), 163-79.
2 Cf. H. Diels and W. Kranz, 'Die Fragmente der Vorsokratiker' (7th edn, Berlin 1956), 1: 15 ff.
3 Leon Robin refers to: 'Moral anxiety or intellectual anxiety which provokes remembrance, and a sense of inferiority which gives rise to love.' Cf. Plato, 'Oeuvres complètes' (Paris, 1940), 1376.
4 On these myths, cf. P.-M. Schuhl, 'Essai sur la formation de la penseé grecque', 2 (1934) Paris, 241 ff., 2nd edn, 1949; and above, pp. 41-64.
5 Pausanias 9. 29, 2-3. We should like to thank Detienne who drew our attention to this text of Pausanias. Cf. B.A. Van Groningen, Les trois Muses de l'Hélicon, 'L'Antiquité classique' (1948), 287-96.
6 See above, p. 43.
7 Cf. P. Boyance, 'Le Culte des Muses chez les philosophes grecs' (Paris, 1936).
8 There is a striking similarity of themes in the religious thought of the sects and philosophical thought. There is, however, one essential difference: the 'wisdom' of the philosopher aims to establish an order within the city whereas all considerations of political organization remain totally foreign to the spirit of the sects.
9 Thucydides 2. 39; Plato 'Laws' 865a.
10 Thucydides writes that in the Spartan *paideia* the ἀνδρεῖον is obtained, among the νέοι, through a ἐπιπόνῳ ἀσκήσει, a πόνων μελέτη (ibid.).
11 On the opposition, within a decidedly military concept of virtue, between *améleia*, on the one hand, and the *mélétè* associated with *épiméleia* on the other, cf. Xenophon 'Oeconomicus' especially 12. 6 and ff.; 20. 3 and ff.
12 Cf. C. Picard, Nouvelles remarques sur l'apologue dit de Prodicos, 'Revue archéologique', 42 (1953), 10-41. *Ameleia* is associated with *malachia* in Thucydides 1. 122. 4; with *argia* in Plato 'Republic' 421d.
13 Iamblichus 'V.P.' 164.
14 Ibid. 63.

15 Ibid. 164 and 165.
16 Μηδ' ὕπνον μαλακοῖσιν ἐπ' ὄμμασι προδέξασθαι πρὶν τῶν ἡμερινῶν ἔργων τρὶς ἕκαστον ἐπελθεῖν: lines 40-1, P.C. Van der Horst (Leyden, 1932).
17 Τῆς θείης ἀρετης εἰς ἴχνια; cf. Proclus 'Hymn to the Muses' 6-7; the Muses teach us to make haste to find the trace, ἴχνος, again, on the deep stream of oblivion, ὑπέρ βαθυχεύμονα λήθην.
18 Plutarch 'On the Education of Children' 2a-e.
19 Καὶ τὰ μὲν ῥάδια τοὺς ἀμελοῦντας φεύγει, τὰ δὲ χαλεπὰ ταῖς ἐπιμελείαις ἁλίσκεται.
20 Diels and Kranz, 'Fragmente', 1: 203, 10.
21 Ibid., 203, 18-21, and 204, 16 ff.
22 Plutarch 'On the Education of Children' 5d.
23 Iamblichus 'V.P.' 42-3.
24 Plutarch 'On the Education of Children' 9c.
25 Ὄλβιος, ὃς θείων πραπίδων ἐκτήσατο πλοῦτον. Diels and Kranz, 'Fragmente', 1: 365, 5 ff.
26 Cf. L.R. Farnell, 'Cults of the Greek States' (Oxford, 1896), 1: 55.
27 Harpocration, s.v. κτησίου Διὸς, quoting Hyperides and Menander (184-5, Dindorf): κτήσιον Δία ἐν τοῖς ταμιείοις ἱδρύοντο.
28 Atheneus 473b: καδίσκος ἀγγεῖόν ἐστι ἐν ᾧ κτησίους Δίας ἐγκαθιδρύουσιν....
29 Diels and Kranz, 'Fragmente', 1: 364, 4: Ὁππότε γὰρ πάσησιν ὀρέξαιτο πραπίδεσσιν. Cf. Iamblichus 'V.P.' 67 and Diogenes Laertius 8. 54.
30 Louis Gernet, Les origines de la philosophie, 'Bulletin de l'enseignement public au Maroc' (1945), 183, 8; cf. above, p. 86.
31 Plato 'Phaedo' 673 and 81a.
32 Ibid. 67c; cf. also 65c, 70a, 81e and c, 83a. This is the same exercise in 'concentration', in the true sense of the term, that is also to be found in Porphyrus 'Letter to Marcella' 10: 'if you practise withdrawing into yourself, gathering together apart from the body all your spiritual parts that are dispersed through it and reduced to a multitude of particles separated out from a unity which until that moment had enjoyed its strength to the full....' (from the French translation by Festugière). The Greek text says: εἰ μελετώης εἰς ἑαυτὴν ἀναβαίνειν, συλλέγουσα ἀπὸ τοῦ σώματος πάντα τὰ διασκεδαθέντα μέλη...; cf. also Porphyry 'Sententiae' 34.
33 Plato 'Phaedrus' 275a; cf. also 'Theaetetus' 153b.
34 Proclus 'In Plat. Remp.' 349, Kroll.
35 Cf. Harold W. Miller, Flux of Body in Plato's Timaeus, 'Transactions and Proceedings of the American Philological Association', 88 (1957), 103-13.

36 Proclus 'In Plat. Remp.' 122; cf. also 51: it is clear that the plain of Lethe signifies generation, τὴν γένεσιν, and the river of oblivion, πᾶσαν τῆν ῥύσιν τῶν ἐνύλων καὶ τὸ ῥόθιον κύτος ἡμων, both of which constantly fill our souls with forgetfulness with regard to those things that are forever unchanging.

37 Aristotle 'Physics' Δ. 13, 222b 17 (Deils and Kranz, 'Fragmente', 1: 217, 10 ff; cf. Schuhl, 'Essai', 251).

38 Plato 'Gorgias' 493a ff.

39 Ibid. 493e: μετὰ πολλῶν πόνων καὶ χαλεπῶν.

40 Cf. 493a: ἀναπείθεσθαι καὶ μεταπίπτειν ἄνω κάτω.

41 Cf. *Aphrodite-Peithô*; on the ambiguity of *peithô* and its relationship to *pistis*, cf. M. Untersteiner, 'I sofisti' (1948); translated into English under the title of 'The Sophists' (Oxford, 1954), 102 and ff.; cf. also A. Setti, La memoria e il canto, Saggio di poetica arcaica greca, 'Studi italiani di fililogia classica', n.s., 30, 2 (1958), 129-71; and above all the stimulating article by A. Rostagni, Un nuovo capitolo nella storia della retorica e della sofistica, 'Studi italiani di filologia classica', n.s., 2 (1922), 148-201.

42 Diels and Kranz, 'Fragmente', 1: 309, 5.

43 Ibid., 310, 9 ff.: γυίων πίστιν ἔρυκε.

44 Ibid., 311, 6: ἀλλὰ κακοῖς μὲν κάρτα μέλει κρατέουσιν ἀπιστεῖν. According to Clement 'Strom.' 5. 18, for Empedocles the characteristic of the wicked is the desire κρατεῖν τῶν ἀληθῶν διὰ τοῦ ἀπιστεῖν. The desire to command those who rule over us, and refusing one's *pistis* to whoever holds the truth - this, for the wicked soul, is the point where it turns upside down the ἄνω κάτω of the 'Gorgias'.

45 Diels and Kranz, 'Fragmente', 1: 311, 7.

46 Ibid., 311, 13: στεγάσαι φρενὸς ἔλλοπος εἴσω.

47 Ibid., 353, 1-2. Compare with 309, 2.

48 Ibid., 353, 3: ἦ σ' ἄφαρ ἐκλείψουσι περιπλομένοιο χρόνοιο.

49 Ibid., 352, 20-1.

50 Ibid., 352, 22-3: δι' αἰωνος παρέσονται, ἄλλα τε πόλλ' ἀπὸ τῶνδ' ἐκτήσεαι· αὐτὰ γὰρ αὔξει...

51 Cf. Jane Harrison, 'Prolegomena to the Study of Greek Religion' (Cambridge, 1903), 613-23, 4th edn, 1957; C. Picard, L'eleusinisme et la disgrâce des Danaides, 'Revue de l'histoire des religions' (1929), 57-9.

52 It is one which is already pointed out by Proclus, in his commentary to the 'Timaeus' (339b), where he writes: 'Plato calls the whole of nature that involves

generation and in which oblivion resides the river of Lethe and, following Empedocles, the meadow of Ate.'

53 It will be noted that the landscape of the underworld, as Plutarch in the 'Delays of Divine Justice' has Thespesios describe it on his return from Hades, is different from that of the 'Republic'. Here Lethe appears neither as a river nor as a plain: it is a deep cavern similar to the caves of Dionysus. This cavern symbolizes the damp world of generation, the sweetness and lazy softness of pleasure. Faced with it, the soul of Thespesios feels its strength deserting it while remembrance of the body and the desire for generation grow in it. So it is Hèdonè that is present in the dark cavern of Lethe. Now, in another text, Plutarch emphasizes that Hèdonè was hurled down to earth in the company of Ate ('On the Oracles at Delphi' 397).

54 Cf. Detienne, La notion mythique d'*Aletheia*, 'Revue des études grecques' 73 (1960), 27-35. On Lethe and Aletheia in Plato, cf. Proclus 'In Plat. Remp.' 2. 346, 19, Kroll.

55 Hesiod 'Theogony' 227 and 230.

56 Cf., for example, Pindar 'Olympians' 7. 45-7: however, sometimes the cloud of oblivion creeps up insensibly and conceals the straight way from the spirit.

57 On *ate* and *hamartema*, cf. Louis Gernet, 'Recherches sur le développement de la pensée juridique et morale en Grèce' (Paris, 1917), 310-30.

58 Diels and Kranz, 'Fragmente', 1: 357, 15 ff.

59 Ibid., 358, 6: στυγέουσι πάντες.

60 Ibid., 358, 8: νείκει μαινομένωι πίσυνος.

61 Hesiod 'Theogony' 226 and ff.

62 Ibid. 775 and ff.

63 Ibid. 795 and ff.: κεῖται νήυτμος, ἀνάπνυστος, ... κακὸν δέ ἑ κῶμα καλύπτει.

64 Plato 'Republic' 621b.

65 Pausanias 8. 17, 6, and 18, 4-6.

66 Cf. the mythical representation of Empousa, the monster of the underworld: she has one bronze foot while the other is a horse's hoof.

67 Pausanias 8. 18, 7-8, and 19, 2-3.

68 In a long passage from the dialogue 'On the E of Delphi', directly inspired by the texts of Epicharmus, drawing a contrast between the permanent nature of the divine and the constant change which takes place within man (frg. 1 and 2), Plutarch, adopting the same expressions as the 'Republic', writes on the subject of time: '... Ῥέον ἀεὶ καὶ μὴ στέγον, ὥσπερ ἀλλεῖον φθορᾶς καὶ γενέσεως.' Time is fully identified with

the leaking *pithos* of the Danaids. Plutarch adds that immutable existence is called Apollo; the flux of becoming, Pluto. The former is accompanied by the Muses and Mnemosoyne and the latter by Lethe, and Siope, Silence (392 ff.).

69 Heraclitus criticizes Pythagoras's wisdom as being an ἱστορία, a πολυμάθεια (frg. 129). Proclus (in 'Tim.' 38B) draws a parallel between the Pythagoreans' *anamnesis* of previous lives, through which the soul can accomplish itself (τέλος), and the ἱστορία of the Egyptian priests who scrupulously preserve the memory of everything to do with the past of their people and of other peoples, as a precaution against the oblivion which time brings. Proclus adds that such researches imitate the permanence of the immutable principles of nature and make assimilation into the order of the whole possible.

The insistence upon a complete and total knowledge (and upon tracing the recollection of *every* event of the day, and of *every* component of ten or twenty lives of a man) reminds one of the obligation, in religious ritual, to omit *nothing*.

Part Three

The Organization of Space

5 Hestia-Hermes: The Religious Expression of Space and Movement in Ancient Greece

On the base of the great statue of Zeus at Olympia, Phidias carved the twelve gods. Between the Sun (Helios) and the Moon (Selene), the twelve deities, in pairs, were disposed in the orderly arrangement of a god and goddess in each couple, while in the centre of the frieze, in addition, appeared Aphrodite and Eros (2) - the two deities (feminine and masculine) who preside over unions. In this series of eight divine couples there is one pair which poses a problem: Hermes and Hestia. Why are they matched? Neither their genealogies nor their legends can explain this association. They are not husband and wife like Zeus-Hera, Poseidon-Amphitrite, Hephaestus-Charis; nor brother and sister like Apollo-Artemis and Helios-Selene; nor mother and son like Aphrodite-Eros; nor even protector and protege like Athena-Heracles.

What is the link that, in Phidias's mind, unites a god and goddess who appear to be without connection? It can hardly be ascribed to the sculptor's personal fancy. The artist of classical times was bound to conform to certain models when creating any sacred work of art: his creativity could be expressed only within the forms laid down by tradition. Hestia - the name of a goddess but also the noun designating the hearth - was less suited to anthropomorphic representation than the other Greek gods and goddesses. She is seldom depicted and when she is it is often, as sculpted by Phidias, in the shape of Hermes's partner. (3) In the plastic arts, as a rule, therefore, the Hermes-Hestia association is invested with real religious significance. It is there to express a definite structure in the Greek pantheon.

Meagrely represented in the arts, Hestia is even more poorly served in the mythical tales: a remark concerning her birth in Hesiod and in Pindar, an allusion to her virginal status in the 'Hymn to Aphrodite'. We would know

practically nothing about her which could explain her relations with Hermes were it not for a few lines in a Homeric 'Hymn to Hestia' that have come down to us. In this text the two deities are associated in the closest possible way. The hymn opens with six lines invoking Hestia, followed immediately with six lines of invocation to Hermes, whose protection is sought 'in agreement with the worshipful goddess who is dear (φίλη) to him'; and it closes with two lines addressed to the god and goddess jointly. On two occasions the poet stresses the feeling of friendship which Hermes and Hestia nurture for each other. This mutual *philia* explains why Phidias could place them, together with the other couples, under the patronage of Aphrodite and Eros. Nevertheless this reciprocal affection is based neither on blood ties nor on ties of marriage nor on personal interdependence. It is the result of an affinity of function, for the two powers are present in the same places and carry out their complementary activities side by side. Neither relations nor spouses nor lovers nor vassals - one could say that Hermes and Hestia are 'neighbours'. Each is related to the terrestrial sphere, the habitat of a settled people. The 'hymn' sings that the two gods 'in friendship together dwell in the glorious houses of men who live on the earth's surface (ἐπιχθόνιοι).' (4)

That Hestia should reside in the house goes without saying: in the middle of the quadrangular *megaron* the rounded Mycenaean hearth marks the centre of the human dwelling. According to the 'Hymn to Aphrodite': 'Zeus the Father gave her (Hestia) a high honour instead of marriage and she has her place in the midst of the house (μέσῳ οἴκῳ).' (5) But Hestia represents not only the centre of the domestic sphere. Sealed in the ground, the circular hearth denotes the navel which ties the house to the earth. It is the symbol and pledge of fixity, immutability, and permanence. In the 'Phaedrus' Plato evokes the cosmic procession of the twelve gods. (6) Ten deities proceed in the wake of Zeus who leads them across the heavens. Only Hestia remains at home and never leaves her abode. For the poets and philosophers, Hestia, the node and starting point of the orientation and arrangement of human space, could be identified with the earth, immobile at the centre of the cosmos. According to Euripides, 'the Sages call the Earth-Mother Hestia because she remains motionless at the centre of the Ether.' (7)

Hermes too, though in a different way, is associated with man's habitat, and, more generally, with the terrestrial sphere. In contrast to the distant gods who dwell in an outer region, Hermes is a familiar god who frequents

this world. Living among mortals on terms of intimacy, he introduces the divine presence into the very heart of the world of mankind. As Zeus says to him in the 'Iliad': 'Hermes, seeing thou lovest above all other to companion a man (ἑταιρίσσαι)....' (8) And Aristophanes salutes him, of all the gods, as the most 'friendly to man'. (9) But if he thus manifests himself on earth, if, with Hestia, he inhabits the dwellings of mortals, Hermes does so in the form of the messenger (Hermes ἄγγελος, - it is by this name that he is specifically invoked in the 'Hymn to Hestia'), as a traveller from afar and one who is already preparing to depart. Nothing about him is settled, stable, permanent, restricted, or definite. He represents, in space and in the human world, movement and flow, mutation and transition, contact between foreign elements. In the house, his place is at the door, protecting the threshold, repelling thieves because he is himself the thief (Hermes ληΐστήρ, the robber, πυληδόκος, the watcher at the gates, νυκτὸς ὀπωπητήρ, the watcher by night), (10) for whom no lock, no barricade, no frontier exists. He is the wall-piercer who is pictured in the 'Hymn to Hermes' as 'gliding edgeways through the keyhole of the hall like the autumn breeze, even as mist'. (11) Present at the front doors of houses (Hermes πυλαῖος, θυραῖος, στροφαῖος), he also stands at the gateways of towns, on state boundaries, at crossroads (Hermes τρικέφαλος, τετρακέφαλος), (12) as a landmark along paths and tracks (Hermes ὅδιος, ἐνόδιος), and on tombs - those gateways to the underworld (Hermes χθόνιος, νύχιος). In all places where men, departing from their private dwellings, gather together and enter into contact for the purpose of exchange (whether for the exchange of ideas or for trade), as in the *agora*, or for competition as in the stadium, Hermes is present (Hermes ἀγοραῖος, Hermes ἀγώνιος). He is the witness to agreements, truces, and oaths between opponents; he is the herald, messenger, and ambassador abroad (Hermes ἄγγελος, διάκτορος, κηρύκειος). A wandering god, the patron of the roads both on and leading to the earth, he is the travellers' guide in this life, and, in the other, escorts souls to Hades - and sometimes brings them back (Hermes πομπαῖος, καταιβάτης, Ψυχοπομπός). He leads the dance of the *Charites*, brings in the four seasons in their turn, attends the change from waking to sleep and sleep to waking, from life to death, from one world to another. He is the link, the mediator between mortals and the gods, both those of the world above and those of the underworld. The Albani villa bust of him (13) bears the inscription: '*coeli terraeque meator*'; and Electra addresses him in these words:

'Herald (κῆρυξ) supreme between the world above and the world below, Oh nether Hermes, come to my aid and summon me the spirits beneath the earth to attend my prayers.' (14) But though he may mingle with humanity, Hermes remains both elusive and ubiquitous. He makes an abrupt appearance where least expected, only to disappear again immediately. When there was a sudden pause in the conversation and silence reigned, the Greeks used to say: 'Hermes is passing.' (15) He wears the helmet of Hades which grants the wearer invisibility, and winged sandals that abolish distance. He carries a magic wand that transforms all he touches. He is the unpredictable, the uncontrollable. He is also chance, good or bad luck, the unexpected meeting. In Greek a godsend is τὸ ἕρμαιον.

Through this profusion of epithets, this variety of attributes, Hermes appears as an extraordinarily complex figure. He has been thought so baffling that it has been suggested that in the beginning there must have been several different Hermes gods which later merged into one. (16) The various characteristics that are combined in the general makeup of the god seem, however, to fall into order more easily if he is considered in the light of his relations with Hestia. If they form a couple, in the religious beliefs of the Greeks, it is because the two deities belong to the same plane, their action applies to the same field of reality, and their functions are interrelated. Now, as regards Hestia, no doubt is possible: her significance is obvious, her role is strictly defined. Because her fate is to reign, forever immobile, at the centre of the domestic sphere, Hestia implies, as her complement and her contrast, the swift-footed god who rules the realms of the traveller. To Hestia belongs the world of the interior, the enclosed, the stable, the retreat of the human group within itself; to Hermes, the outside world, opportunity, movement, interchange with others. It could be said that, by virtue of their polarity, the Hermes-Hestia couple represents the tension which is so marked in the archaic conception of space: space requires a centre, a nodal point, with a special value, from which all directions, all different qualitatively, may be channelled and defined; yet at the same time space appears as the medium of movement implying the possibility of transition and passage from any point to another.

Obviously, by interpreting the Hermes-Hestia relationship in terms of these concepts, we distort them. The Greeks who worshipped these deities never saw them as symbols of space and movement. The construction/structuring of a pantheon was ruled by a logic which is not in accordance with our criteria. Religious thought obeys

its own rules of classification. It defines and classifies phenomena by distinguishing between different types of agent, by comparing and contrasting various kinds of activity. In this system space and movement are not yet interpreted in the form of abstract ideas. They remain implicit in that they are incorporated in more material and more dynamic aspects of reality. If Hestia is apparently capable of 'centring' space while Hermes can 'mobilize' it, it is because as divine powers they are the patrons of a series of activities undoubtedly dealing with the organization of earth and space, and even constituting, in terms of praxis, the framework within which, for the Ancient Greeks, the experience of space took place - but which nevertheless covers a very much wider field than that implied when we talk of space and movement.

The relationship of the Greek Hestia to the Roman Vesta has given rise to many a controversy. (17) In Greece there was no persona or function comparable to the Vestal virgins. It is, however, difficult not to believe that, in the beginning, the tending and care of the Mycenaean hearth, and in particular the royal hearth, was a sacred office performed by women and that this duty fell on the daughter of the house prior to her marriage. (18) Louis Deroy has even argued that the word *parthenos* (virgin) is a functional designation denoting she who tends the fire. (19) Whether that is true or not, if fire as such (the sacrificial fire as much as that of the forge or the cooking fire) is related to Hephaestus, a male god, the round altar of the domestic hearth is, on the contrary, associated with a female deity and a virginal one. The usual explanation in terms of the purity of fire is not satisfactory. For one thing, Hestia is not fire but the altar-hearth; and for another, Hephaestus, who is precisely the incarnation of this power of fire, is anything but 'pure'. (20) In order to interpret these facts, therefore, it would be better to go back to the Homeric 'Hymn to Aphrodite' and the short passage concerning Hestia which is moreover sufficiently explicit. (21) The hymn exalts Aphrodite's supremacy: nothing can withstand her, neither beasts nor men nor gods. But the goddess's prerogative is not the brutal domination, the physical coercion appropriate to the warrior deities. Her weapons, even more successful, are those of tenderness and charm. No creature, in the heavens, on earth, or in the sea, can escape the magic powers of the forces she mobilizes in her service: Πειθώ, persuasion, Ἀπάτη, alluring charm, Φιλότης, the bonds of love. In all the universe there are only three goddesses able to withstand her magic arts:

Athena, Artemis, and Hestia. Unshakeable in their determination to remain virgins, they oppose Cytherea with hearts so staunch and such high resolution that neither the wiles of Πειθώ nor the fascinations of Ἀπάτη succeed in changing their sentiments or altering their status. This fixity of purpose, this obstinacy in refusing to change, is particularly emphasized in the hymn with regard to Hestia. Wooed by Poseidon and Apollo, who both desire her, Hestia firmly (στερεῶς) rejects their suit, and to make this refusal irrevocable she takes the grand oath of the gods - 'that which can never be retracted' - and vows to remain an eternal virgin. There can be no doubt that Hestia's function as goddess of the hearth is related to the permanency of her virginal status: the text specifies that Zeus gives her the right to take up her residence at the centre of the house *in compensation* for the nuptials she has renounced forever (ἀντι γάμοιο). For Hestia, the wedded state would be the negation of the values that she represents at the heart of the house (house, οἶκος, signifying both the dwelling place and the human group inhabiting it): values of fixity, permanence, seclusion. Does not marriage, after all, imply a twofold transformation of the young girl - of herself as a person and of her social status? On the one hand it is a form of initiation by which she accedes to a new status, to a different world of human and religious realities, (22) and on the other it uproots her from the domestic milieu to which she belonged. Once she is established at her husband's hearth she becomes part of another house. (23) More generally speaking, the union of the sexes is a contract and of all contracts the one that involves the two greatest natural opposites - the male and the female. In this connection, one of the essential aspects of Greek *charis* should be emphasized: *charis* is the divine power that is manifest in all aspects of gift-giving and reciprocity (the round of generous liberality, the cordial exchange of gifts), which, in spite of all divisions, spins a web of reciprocal obligations, (24) and one of the oldest of all of the functions of *charis* is the giving of herself by a woman to a man. (25) Thus it is not surprising that Hermes, who is closely linked with the *charites* (Hermes χαριδότης) should also play a part in the union of the sexes and should appear side-by-side with Aphrodite as the true patron of Πειθώ, of the persuasive arts capable of shaking the most fixed resolves, of changing the most confirmed opinions. (26)

But the analysis can go deeper. In Greek the domestic sphere, the enclosed space that is roofed over (protected), has a feminine connotation; the exterior, the open air, a

masculine one. The woman's domain is the house. That is her place and as a rule she should not leave it. (27) In contrast, in the *oikos*, the man represents the centrifugal element. It is for him to leave the reassuring enclosure of the home, to confront the fatigues and dangers of the outside world, to brave the unknown; for him to establish contacts with the outside, to enter into negotiations with strangers. Whether engaged in work, war, trade, social contacts, or public life, be he in the country or in the *agora*, on sea or on land, man's activities carry him into the great outside. Xenophon is merely expressing the common belief when, after contrasting mankind with the beasts as needing a roof over their heads instead of living in the open - ἐν ὑπαίθρῳ - he adds that the gods have endowed men and women with opposite characters. Body and soul, man is made for the ἔργα ὑπαιθρία, τὰ ἔξω ἔργα, the open-air life and outside activities, the woman, for the indoor life, τὰ ἔνδον. And so 'to the woman it is more honourable to stay indoors than to go out into the fields, but to the man it is unseemly to stay indoors rather than to attend to the work outside.' (28)

There is, nevertheless, one instance when this orientation of the man towards the exterior and the woman towards the interior is reversed. In marriage, in contrast to all other social activities, it is the woman who is the mobile social element, whose movement creates the link among different family groups, whereas the man remains tied to his own hearth and home. The ambiguity of the female status lies thus in the fact that the daughter of the house (more closely linked to the domestic sphere by virtue of her femininity than is a son) can nevertheless not fulfil herself as a woman in marriage without renouncing the hearth of which she is in charge. The contradiction is reconciled in the sphere of religious representation by the image of a deity who personifies those aspects of feminine nature that are permanent, while remaining, through her virginal status, a stranger to the element of mobility. This 'permanence' of Hestia's is not only of a spatial kind. As she bestows on the house the centre that sets it in space, so Hestia ensures to the domestic group its continued existence in time. It is through Hestia that the family line is perpetuated and remains constant, as though in each new generation the legitimate offspring of the household were born directly from 'the hearth'. Through the goddess of the hearth, the function of fertility, dissociated from sexual relations (which, in an exogamous system, postulate relations between different families), can appear as an indefinite

prolongation of the paternal line through the daughter, without a 'foreign' woman being necessary for procreation.

This dream of a purely paternal heredity never ceased to haunt the Greek imagination. It is openly expressed in the tragedy, 'The Eumenides', when Apollo proclaims that maternal blood can never run in the veins of the son, seeing that 'the mother of what is called her child is not its begetter; the begetter is the man, he who plants the seed, whereas she (ξενω ξενη) doth but preserve the sprout as a stranger would tend a stranger.' (29) It is this dream that doctors and philosophers disguise as scientific theory when they uphold, as Aristotle did for instance, that in procreation the female emits no seed, that her role is entirely passive, that the active regenerating function is exclusively male. (30) It is the same dream which is discernible in the royal myths in which the newborn child is compared to an ember from the paternal hearth. The stories of Meleager, of Demophoon, (31) recall the Latin legends - mostly Greek in origin - in which the king's son is born from a brand or spark leaping from the fire into the lap of the virgin tending the hearth. (32) The ritual appellation of the hearth-child (which, in the historic age, designated the city's representative to the deities of Eleusis) has very much the meaning and significance accorded it by Gernet when he specifically emphasized the close relationship which in Greece links the hearth and the child: the Παῖς ἀφ' ἑστίας represents, in its true sense, the child 'issue of the hearth'. (33) And, as we shall see, it is in this context that the ritual of the *mphidromia* should be understood, whereby the newborn child, seven days after birth, is attached to its father's hearth.

Hestia thus incarnates, pushed to its limits, the tendency of the *oikos* towards self-isolation, withdrawal, as though the ideal for the family should be complete self-sufficiency: total self-sufficiency economically, (34) strict endogamy in marriage. This ideal does not conform with Greek reality. But it is nevertheless present in family institutions and the forms they take to ensure their continued existence - it is one of the axes round which the domestic life of ancient Greece was organized.

In Sophocles's 'Electra' there is an example which allows us to judge the magnitude and the limits of this tendency of the *oikos* towards introversion. This is the dream which reveals to Clytemnestra the imminent return of Orestes, the son she has attempted to dispose of after the murder of her husband Agamemnon, killed with the help of her lover Aegisthus. Once the lawful king is dead, Aegisthus shares the throne with his wife the queen. (35)

He receives from his wife the sceptre which Agamemnon inherited from his forefathers, and the libations that the new king pours out for Hestia in the palace hall are in fact to honour an alien hearth. (36) In relation to the royal hearth of Mycenae, therefore, Aegisthus is in the same position as the woman normally is in the *oikos* of her husband. And this inversion of the social status of the spouses corresponds, in the tragedy, to a similar inversion of their relations and their psychological characteristics. In the Aegisthus-Clytemnestra couple Clytemnestra is the man, and Aegisthus, the woman. (37) All the great tragic writers agree in depicting Aegisthus as effeminate, cowardly, a voluptuary, and a womanizer, succeeding through women, and whose prowess is confined solely to that field of battle ruled by Aphrodite. (38) Clytemnestra, on the other hand, lays claim to the qualities and dangers of an entirely masculine nature. (39) Deliberate, authoritative, bold, born to command, she rejects with disdain all the frailties of her sex. It is made very clear that she reverts to womanhood only when in bed. In her decision to murder Agamemnon the legitimate grievances she could invoke against her husband weighed less than her refusal to accept masculine domination, her determination to take the place of the man in the home. (40) And this is the dream the queen has:

> She beheld Agamemnon in bodily presence standing by her side, revisiting the light of day. He took the sceptre of Aegisthus, once his own, and at the household altar planted it, and from it sprang and spread a fruitful bough till it o'ershadowed all Mycenae's land. (41)

The sexual symbolism (Agamemnon planting the seed of the young shoot in Hestia's bosom where it will sprout) is inseparable, in this instance, from the social symbolism. The σκῆπτρον is a kind of mobile representation of sovereignty. Zeus transmitted it, through Hermes, to the Atrides. The king himself entrusts it to his herald and his ambassadors. In the assembly of the elders the sceptre passes from hand to hand, conferring on each orator in turn the authority and respect he requires in order to speak. The sceptre's royal quality could not be maintained intact through such delegations and transfers if at the same time it did not appear to be firmly rooted in the hearth. Corresponding with the staff (the ῥάβδος, the κηρύκειον) which Hermes brandishes or waves is the symbol which in all representations is placed in Hestia's hand as her ritual attribute, the σκῆπτρον in its true meaning. (42) But Aegisthus did not receive the sceptre, ἀφ' Ἑστιας. It was transmitted to him obliquel

through a woman, herself a stranger to the house of the Atrides, and moreover in a feminine way - in and by way of the bed. By re-establishing it in the hearth Agamemnon wrenches it from the usurpers and returns it to his own descendants, who alone are truly implanted in Mycenaean soil. Analogous to the burning brand of the Latin legends, the staff set in the hearth symbolizes that royal seed, σπέρμα, placed earlier by Agamemnon in Clytemnestra's womb where it grows. (43) It is Orestes, the child become man, hated and feared by his mother because in him the father finds his avenger and his perpetuation. The dream could not denote more clearly that, beyond the person of Clytemnestra, Agamemnon in fact begot Orestes in his own hearth, the hearth which itself roots the royal house to the soil of Mycenae. In the same way as in her wifely role she should always have effaced herself before her husband, (44) so, as a mother, Clytemnestra should have effaced herself before Hestia, her own role being confined to cherishing, as a stranger would, the human seedling entrusted to her safekeeping by her husband. On the contrary, by asserting her masculine determination, the the queen aspires to displace the male in all spheres. She lays claim to the active function in the government of the state, in marriage, in procreation, in all her relationships, just as she assumes it, sword in hand, in the carrying out of a crime in which she leaves to her confederate the female role of instigation, complicity, and cunning. (45) Clytemnestra has mounted the throne in Agamemnon's place. (46) She has taken over the sceptre and the power. She has summoned to the house of the Atrides, which henceforth she proclaims her own, (47) the bedfellow (48) she has decided to make a husband. She asserts that, in begetting, the woman's role prevails over that of the man. (49) She denies those children she has had by Agamemnon and who belong to the paternal line. As for those she has had by Aegisthus, that οἰκουρός, (50) that 'domesticated man' who preferred to stay with the women at home rather than set off with the men to war, Clytemnestra wants them; she makes them so completely hers that they take their name from their mother instead of from their father. In Euripides's tragedy, Electra, confronting the corpse of Aegisthus, denounces the 'inverted' relationship of Agamemnon's murderers in these words: 'And through all Argos the people called the man by the woman's name, and not the wife by her husband's name. Yet shame is this when foremost in the home is wife, not husband. I hold in horror the sons whom the city calls not by their father's name, but by their mother's.' (51)

It is Hestia who expresses herself through Electra.

Agamemnon's daughter represents the paternal household from which she, like her brother, has been cast out and which she wishes to restore with him, by expelling the intruders who have established themselves there. But, in her relations with Orestes, Electra is not only the sister so closely linked to the brother that their two lives merge in a single soul; (52) she is also the mother - in truth the only mother of Orestes. As a child she cherished, protected, and safeguarded him: 'For thou wast ne'er thy mother's babe, but mine, thou hadst no nurse in all the house but me. It was I, your sister, who fed you, and it was always me you called for.' (53) As he grows up, she urges him to take vengeance, she supports and guides him in carrying out the double murder which makes them the 'saviours of the father's hearth'. (54) At the side of her young brother, taking the place of the mother whose dominating and vigorous character she has inherited, (55) Electra is a double to Clytemnestra and at the same time stands in opposition to her. As a virgin (Ἠλέκτρα can be associated with ἄλεκτρα, without wedlock, (56) and Euripides's Electra remains chaste even in marriage), she wishes to be all the more pure in contrast to the sensuality and licentiousness she imagines in her mother. (57) She loves her father as forcefully as Clytemnestra hates her husband. (58) Of these two equally manly women, one of them has embraced the formula of Athena, a goddess who, like Hestia, is dedicated to virginity: 'With all my soul I am for the male, in all things, save wedlock.' (59) The other, in contrast, the 'polyandrous woman', (60) the 'female killer of men', (61) is against man in all his aspects; she wants him only as a bedfellow. Both, for inverse reasons, are outside the domain of marriage: one does not enter its orbit, the other goes beyond it. If the first, Electra, unreservedly takes the part of the father, it is in accordance with the fact that, being attached to the home, she refuses the conjugal relationship, and recognizes no progeniture of her own; it is her brother in whom the paternal line is perpetuated, and who takes the place, for her, simultaneously of son, father, and husband. If the second of these two women, Clytemnestra, declares herself unreservedly on the side of the mother, it is in so far as she rejects the wifely status. She disowns the children who remind her of the home of the spouse and the subjection of the woman to the husband. Like the Erinyes, who defend her cause at the level of the divine powers, she scorns marital ties. (62) In the blood-ties that she upholds against them and that she prefers to them, she wishes to retain only those which connect the child with

the womb that bore it, the breast that nourished it. For her, the man of the couple is restricted to the role of sexual partner. He is no longer the husband who leads his wife to his domestic altar nor the progenitor of her children. He enacts, for his wife, the role which is normally assumed by the concubine in regard to a man - that of a bedfellow. (63)

It is rather a platitude these days to point out that, in the Greek theatre, the story of Orestes expresses in the form of tragedy the conflicts that disrupt family life, particularly those which set man and woman against each other within the home: the conflicts between man and wife, son and mother, the paternal and the maternal lines. But in insisting so strongly on the antagonism between Electra and Clytemnestra, who are alike in so many ways, the tragedies also emphasize the contradictions which divide a woman against herself and the oppositions within her social and psychological status. Being deities, Hestia, Aphrodite, and Hera can personify a single facet of feminine reality to the exclusion of all others. But this 'purity' is impossible for human beings. Every woman who is mortal has to take on the totality of the female state with all its tensions, ambiguities, and conflicts. In wishing to be fully associated with Hestia or completely against her, Electra and Clytemnestra present a split picture of woman, deformed and contradictory. They destroy their femininity and emerge, both of them, as equally manly. By associating herself with the home in which she was born, Electra ends by identifying herself with the men of her paternal lineage. By the seizure of her husband's home in order to found her own maternal line, Clytemnestra makes herself a man. As against Electra, she is right in accepting the sexual union (woman and man being complementary), in forsaking the house of her father, and adopting that of her husband (the function of mobility of the woman). On the other hand, Electra is right in focusing the whole life of the couple around the husband's hearth (the 'patrilocal' nature of marriage, the submission of the spouse to the husband, the domestic vocation of the woman). Electra is not wrong when she associates the child with the paternal line (the precedence of the masculine line); Clytemnestra is telling the truth when she proclaims that the child is of the blood of the mother (the rules prohibiting incest, stricter on the maternal side). (64) They both make the mistake of disavowing one aspect of consanguinity (the bilateral nature of affiliation among the Greeks).

In a masculine society such as that of Greece the woman

is normally regarded from the man's point of view. And from this standpoint she fulfils, through marriage, two major social functions between which there is a divergence if not complete polarity. In its oldest form (and among the nobility to whose circles epic poetry introduces us), marriage is a formalized transaction between family groups and the woman is one element of the exchange. Her role is to seal the alliance between opposing groups. Like a ransom, she may be the means of bringing a vendetta to an end. (65) Among the gifts exchanged as a normal accompaniment to the marriage and which set the seal on the new agreement there is one of particular value because it is explicitly given in exchange for the woman, and is in fact the price paid for her. This is the ἔδνα, a very valuable commodity of a very definite type: prize animals from the flocks and herds, especially male cattle, of great prestige value, and for which exaggerated claims of size and number are made. By this marriage practice of purchase the woman becomes one of the commodities of the exchange. Being mobile in the same way as other commodities, she is similarly the medium for gifts, exchanges, and abduction. (66) In contrast, the man who welcomes the spouse to his house (it is συνοικεῖν, cohabiting with the husband, which defines the state of marriage for the wife) represents the landed property of the *oikos*, the πατρῷα, generally inalienable, which through the rise and fall of succeeding generations maintains the bonds between the family line and its native soil. This idea of a symbiosis, or, even better, of a communion between a plot of earth and the human group that cultivates it, exists not only in religious thought (witness the myths of autochthony: men asserting they are the 'sons of the soil' they inhabit) and in the rites of sacred ploughing (which we shall have occasion to consider later on). It is also evident, with remarkable persistency, in the city institutions. As the term *oikos* has both a family and a territorial meaning, it is easy to understand the undercurrents that, in a fully mercantile economy, hamper transactions of purchase and sale in the case of family landed property (κλῆρος). Equally comprehensible is the refusal to grant strangers the right to own land belonging to 'the city' because this is the privilege and right of the 'native' citizen.

Marriage, however, does not consist solely in this form of commerce between families. It also allows men of a particular lineage to found a family and so ensure the continued survival of their house. From this further standpoint the Greeks viewed marriage as a form of ploughing the soil (ἄροτος), the woman symbolizing the furrow

(ἄρουρα), and the man the ploughman (ἀροτήρ). This imagery, almost obligatory for the tragic poets, (67) but employed also by the prose writers, (68) is something much more than a mere literary device. It is in line with the declaration of the plighting of troths in the stereotypical style made familiar by the comedies. The father, or in his absence the κύριος who is authorized to arrange the daughter's marriage, pronounces as the pledge of betrothal (ἐγγύη): 'I bestow this girl in order that ploughing should bring forth legitimate children.' (69) Plutarch, referring to the existence in Athens of three ceremonies of sacred ploughing (ἱεροὶ ἄροτοι), remarks: 'But most sacred of all sowings is the marital sowing and ploughing (γαμήλιος ἄροτος) for the procreation of children.' (70)

The woman, who at one moment figures as an element of commerce, equivalent as movable property to the wealth of flocks, is now identified, in her procreative function, with a field. Paradoxically, however, she personifies not her native soil but that of her husband. This must be, for otherwise the sons, issue of the ploughed furrow, would not have the religious qualifications to take over the paternal property and work the land productively. Through Clytemnestra, but also in opposition to Clytemnestra, the 'stranger', it is the land of Mycenae which fosters the germination and growth of the tree that casts its shadow over all the land of the house of the Atrides, marking its boundaries in the process. This shadow (σκιά) projected by the royal scion, born of the hearth, rooted at the centre of the domain, possesses beneficent properties. It protects the land of Mycenae. It transforms it into a domestic enclosure, a place of security where each feels at home, protected from want, in a climate of family friendship. (71) Handed down from father to son, the *sacra*, privilege of royal houses or of certain noble *gene*, ensure simultaneously the defence of the land against dangers from outside, internal peace with justice, and the fertility of the soil and flocks. Should a prince be unworthy or illegitimate, the land, the flocks, and the women will be barren, and war and dissension will be rife. But if the rightful king acts according to the rules and upholds justice, then his people will flourish in boundless prosperity: 'The earth bears them victual in plenty, and the oak bears acorns upon the top and bees in the midst; his woolly sheep are laden with fleeces; his women bear children like their father.' (72) It seems legitimate to believe that the practice of sacred ploughing which was still the custom right up to historical times, and which, in the city, was carried out by such priestly families as the Bouzygai, was an extension of

ancient royal rites designed not only to introduce and regulate the agricultural calendar but also to promote, through the act of tilling, the marriage of the king to his land, as in earlier times Jason was joined to Demeter on thrice-ploughed fallow land. (73)

The need for the husband to summon a 'strange wife to his home', there to personify the family land where his children will grow seems less paradoxical if a further aspect of Hestia is considered. In the words of the Homeric hymn: 'For without you (Hestia), mortals hold no banquet - where one does not duly pour sweet wine in offering to Hestia both first and last.' (74) It is therefore Hestia's prerogative (τιμή) to preside over repasts which, beginning and closing with an invocation to the goddess, form a cycle enclosed within time as the *oikos* forms an enclosed circle in space. Having been cooked on the altar of the domestic hearth, the food engenders a religious fellowship among the table companions. It creates a kind of common identity among them. From Aristotle we know the epithet used by Epimenides of Crete for members of the *oikos*. He called them ὁμόκαποι, (75) that is, those who eat at the same table, or, according to another reading, those who inhale the same smoke, ὁμόκαπνοι. By virtue of the hearth the table companions become 'brothers' as if of the same blood. Thus the expression 'to sacrifice to Hestia' has the same meaning as our proverb that charity begins at home. We are told that when the ancients sacrificed to Hestia no portion of the offering was given to anyone. The household shared their collective repast in privacy and no stranger was allowed to participate. (76) Under the sign of the goddess the family circle shuts itself in, the domestic group strengthens its ties and asserts its unity in consuming food forbidden to the stranger.

But there is a counterpart to this. The verb ἑστιᾶν - in both of its generally accepted meanings: receiving in the home and accepting at the table - is usually applied to the guest who is being feasted in the house. The hearth, the meal, the food, also have the property of opening the domestic circle to those who are not members of the family, of enrolling them in the family community. The suppliant, hounded from his home and wandering abroad, crouches at the hearth when he seeks to enter a new group in order to recover the social and religious roots he has lost. (77) And the stranger must be led to the hearth, received, and feasted there, for there can be neither contact nor exchange with those who have not first been integrated within the domestic space. Pindar wrote that at the ever-spread tables of sanctuaries where Hestia was the

patron goddess, the justice of Zeus *Xenios* was respected. (78) Relations with strangers, ξένος, are thus the province of Hestia as much when receiving a guest in the home as when returning to one's own house after a journey or an embassy abroad. In both cases contact with the hearth assumes the value of deconsecration and reintegration within the family space. (79) The centre symbolized by Hestia defines, therefore, not only a closed and isolated world: it presupposes, as a corollary, other analogous centres. By exchange of goods, movement of people - women, heralds, ambassadors, guests, and table companions - a network of 'alliances' is built up among domestic groups. Thus, without being part of the family line of descent, an outside element can become, in more or less permanent fashion, joined to and integrated within a household other than its own. This is the way in which the 'stranger' wife enters her husband's *oikos* through the ritual of the καταχύσματα and becomes part of his home. And for as long as she dwells in her husband's house, she can by virtue of her procreative powers assume that attribute of permanency, continuity, and attachment to the soil which is personified by Hestia. (80)

Each stage of this analysis has shown the polarity which exists between the static and the mobile, the open and the enclosed, the interior and the exterior: a polarity which is evident not only in the interplay of domestic institutions (division of labour, marriage, consanguinity, meals) but is present even in the nature of man and woman. It is also present among the heavenly powers in the structure of the pantheon. For neither Hermes nor Hestia can, in fact, be viewed in isolation. They fulfil their functions as a couple: the existence of the one implies that of the other. Each is a necessary counterpart to the other. Furthermore, this very complementarity which is an attribute of the two deities implies that there is a contradiction or internal tension in each of them that gives their characters as gods a basic ambiguity.

As has been shown, Hestia, in her chastity, remains outside those sexual relations which are the sphere of the wife or concubine, within the household. But, in order to fulfil her function of permanence in time, the virgin goddess must also be seen as a mother. It will be remembered, in this connection, that Euripides in associating Gaia and Hestia, uses the expression: Γαῖα-Μήτηρ, earth-mother. (81) Hestia thus finds herself represented in the paternal line of descent both as woman in her role as virgin daughter and also as woman in her procreative capacity, as the potential giver of life. Porphyry stresses

this polarity, pointing to the existence of not one but two images of Hestia. On the one hand there is the model virgin (παρθενικόν), but on the other, in that Hestia is the power of fertility (γόνιμος), there is also the model of the matron with protuberant breasts (γυναικὸς προμάστου). (82) There is only one institution where these two aspects, normally separated in human practice, find themselves in harmony and that is in the *epikleros*. At first sight this custom of *epikleros* in the Greek family system seems a complete anomaly. It is, in fact, an exceptional case and particularly valuable in that, momentarily upsetting the usual balance, it reveals, in its purest state, one of the trends of domestic organization: the very one we have detected in the figure of the goddess of the hearth.

The best way to define the institution of the *epikleros* is by reference to the definition in the laws of the Manu concerning the equivalent Indian practice. (83)

> He who is without a son may instruct his daughter to provide him with one by marrying her in such a way and according to a convention such that the child she gives birth to will become his own and perform the funeral ceremony for him. The day the girl married in this way gives birth to a son, the maternal grandfather becomes the father of the child. (84)

In Greece, as in India, it means in practice that the daughter of a man without male descendants gives her father the son he lacks and who alone has the right qualifications to inherit the paternal *kleros*. The daughter is termed '*epikleros*' in that she belongs to her father's *kleros* and is joined to him (in Sparta and Crete she is called *patrouchos*, πατροῦχος). On the death of her father, and, in accordance with a carefully regulated preferential order of marriage, the *epikleros* must be married to that male member of her family who, being closest in kinship to the deceased father, is designated to represent him: first, the father's own brothers (the girl's paternal uncles), then their sons (the girl's first cousins), then the brothers of the girl's paternal grandfather (her paternal great-uncles), or one of their children (her first cousins once removed); failing these, the sons of the father's sisters, or, in the last resort, the sons of the paternal grandfather's sisters. (85) The successional aspect of the practice, very strongly marked in the classical period, should not deceive us. The custom of *epikleros* establishes clearly, in the absence of any direct male heir, which kinsman should inherit, with the daughter, the estate associated with her. But it is far less a matter of transmitting property to a collateral

than of preserving through the daughter the continuing existence of a 'hearth'. From this point of view the marriage of a blood-relation with the *epikleros* appears not as a priority right to an inheritance but as a family obligation which imposes on the person concerned a real renunciation, in that the son born of this marriage will perpetuate the line not of his father but of his maternal grandfather. The term used to describe this child is θυγατριδοῦς: 'son of the daughter' or again 'grandson'. Immediately upon gaining his majority, the θυγατριδοῦς has the right to take full possession of the κλῆρος of his maternal grandfather. Neither his father nor even his mother was really its owner. They were simply intermediaries with the duty to ensure that it was handed down from the grandfather to the grandson.

Brief though they are, these indications are enough to situate the place and role of the various protagonists of the institution of the *epikleros*. Contrary to the usual rules, the daughter remains, after marriage, attached to the paternal hearth. It could even be said she is identified with it. It is literally 'in her' that her father's line is continued by a new male. The man chosen to beget a child in this home is he who in his close kinship is most intimately associated with the father and who becomes, in performing his marital duties, the father's substitute. The child born of a marriage which joins him directly to his maternal forefather becomes as much the brother as the son of she who gave him birth. (86) In the institution of the *epikleros* the whole system of matrimonial relations is recast according to an inverted pattern. It is now the woman who represents the stable factor and the man who is the element of mobility. The wife is no longer the stranger who is brought into the home of the husband so that, eclipsing herself for the benefit of the domestic Hestia and assuming her attributes, she will, without disturbing the continuity of the line, give birth to sons who truly 'resemble the father'. In this instance the wife, as the daughter of the house, *is* the paternal home. And so, this time, it is the husband who must integrate himself within the *oikos* of his wife. It is for him to stand aside in favour of the father he represents and in this way the daughter can beget a child resembling its real father - that is, its maternal grandfather. Instead of the line of descent continuing as it usually does from father to son, *per viros*, through the medium of a stranger who by her cohabitation, her συνοίκησις, is attached to the home, the line is perpetuated *per feminas*, from mother to son, through the medium of the closest male relative whose blood affinity, his συγγενίς, joins him to the father.

The *epikleros* is not, therefore, an anomaly. It does not exist on the fringe of the matrimonial system. On the contrary, it is coupled with ordinary marriage and forms with it a whole which contains two opposite and symmetrical solutions to the same problem. It is always a question of ensuring the continuity of a line of descent, the survival of a home which must, through the ages, remain true to itself. And this is achieved in a marriage that, by joining a man and a woman, also unites one household with another while at the same time preserving their two very separate hearths. In the case of the *epikleros*, the daughter of the house personifies, even in marriage, the paternal hearth. And thus, in the person of the *epikleros*, the two aspects of Hestia that are normally dissociated among mortals are brought together: the virgin daughter of the father, and the woman as potential giver of life. But it should be noted at once that the *epikleros* is the outcome of quite exceptional circumstances which justify the reversal of the ordinary rules of marriage. It requires that both father and son, who in the normal run of things constitute the continuity of the family line, should be absent. It is due to the *lack of males* - the links in the chain of descent - that the daughter acquires the procreative capacity to give birth to a child capable of carrying on the paternal line. And even then, in order for her to be able to continue her father's line, a kinsman of the father must be joined to her in a marriage which effects in a lawful, because symbolic, form the forbidden union of father and daughter which ideally seems the best way to safeguard the purity of the domestic hearth from generation to generation. But the price paid for the gain in consistency, from the point of view of Hestia's relations with the young woman, her representative, is a further and fundamental contradiction. In order to give a son to a man without one - that is, to conform to the principle of descent *per viros* - the inverse principle of female consanguinity has to be exceptionally invoked and the son of the *epikleros*, the θυγατριδοῦς, is attached not to his father but to his mother.

And thus in Greek social thought, confronting the image of the male as the sole agent in the act of procreation, the no less powerful image of the woman takes shape as the true source of life nourishing the fruitfulness of the 'house'. Depending on the circumstances, the hearth goddess is able to justify either one of these two contradictory images. It would seem that Hestia's particular function is to set the seal on the 'incommunicability' of different hearths. Rooted as they are in a specific

spot, they can never mix but remain 'pure' even in the union of the sexes and in family alliances. In ordinary marriages the purity of the hearth is ensured by the integration of the wife in the household of her husband. (Hestia being a virgin, the woman personifies her own hearth only while she remains a virgin. In marriage and procreation she no longer represents it. One might say she is 'neutralized'. She plays no definite part and is purely passive. The man alone is active.) In the *epikleros*, in contrast, the purity of the hearth as symbolized by the daughter seems even better protected in that the husband is less concerned in the act of procreation. Taking it to extremes, the daughter could be considered the only true generating force and the child treated as though it belonged solely to the mother. (87)

This 'maternal' aspect of Hestia strengthens the analogy, already referred to, between the circular hearth and the *omphalos*, that other symbolic object also circular in shape and centrally situated. In some cases Hestia is pictured seated not on a domestic hearth but on an *omphalos* (88) and we know that the *omphalos* of Delphi was supposed to be Hestia's seat. (89) In historic times the altar of the communal hearth of Hestia *koine*, set in the centre of the town, was called the *omphalos* of the city. (90)

The *omphalos* is a protuberance in the ground or an ovoid stone which is associated with the earth and is occasionally styled *ge*, and it represents at one and the same time a central point, a tomb, and a storehouse of souls and of life. Marie Delcourt has particularly studied the latter aspect. (91) She notes that the word 'umbilicus' and the protuberant form of the *omphalos* evoke the two cases in which the navel, instead of being in a hollow, protrudes: that is, the umbilicus of a woman in the later stages of her pregnancy and that of the newborn child, which recedes only after several days. Furthermore, the *omphalos* denotes, besides the navel, the umbilical cord which joins the child to its mother as the stem connects the plant to the earth which has nourished it. It is easy to see why the Greek physicians saw the *omphalos* as a root, the root of the abdomen, and why Philolaos, the fifth-century Pythagorean, made it the basis of his theory of the rootedness (ῥίζωσις) (92) of man: each generation rooted in the previous one and the human descendants rooted in the soil of the paternal house. As Artemidorus writes in his 'Interpretations of Dreams':

> The *omphalos* symbolizes the parents for as long as they live, or the mother country in which each was born as

he was born of the umbilicus. To dream of a mishap to the navel means one will be deprived of one's parents or country, and for he who is on foreign soil, ἐπὶ ξένης, that he will never return home. (93)

As a corollary, the circular altar of the hearth, the symbol of the enclosed space of the house, can evoke the female abdomen, the source of life and children. Artemidorus writes: 'The hearth signifies life and the wife of he who dreams,' (94) and later: 'To light a fire which burns brightly in the hearth or in the oven signifies the begetting of children, for the hearth and oven are like a woman ... and fire in them foretells that the woman will become pregnant.' (95) The religious significance of certain geometrical forms should be noted in this connection. Like the *omphalos*, and in contrast to the quadrangular Hermes (Hermes τετράγωνος), (96) Hestia's hearth is round. There is every reason to believe that, in Greece, the circle was characteristic of powers both chthonic and feminine associated with the image of the earth-mother containing within her bosom the dead, the successive generations of mankind and plant life. (97) During the city period and the establishment of the communal hearth in the prytaneum, Hestia was associated with a building in the shape of a rotunda, the tholos, the sole example of the circular form in Greek religious architecture, and recalling the *aedes vestae* and the *mundus* of the Romans. (98) For a long time it was believed that the communal Hestia was situated in the tholos, but it is now known that this was not always so. The prytaneum and the tholos could be distinct from each other. But, as Gernet points out, one should not exaggerate the significance of this point. (99) At Delphi the communal hearth was situated within the tholos of Marmaria. At Mantinea, according to Pausanias, the Hestia *koine* was to be found in a rotunda which also contained the tomb of a heroine. (100) At Olympia, at Sicyon, the prytaneum was composed of several buildings and those sheltering Hestia may well have been circular. Furthermore it would seem that the very name of the tholos at Athens, as at Sparta, emphasizes the affinity between this type of circular edifice and the religious symbolism of Hestia herself. In both these cities the tholos is called the *skias*, a term which sometimes evokes the σκιάδες (huts built of branches and leaves in the form of a tent, erected by the Spartans on the occasion of the *carneia*), and at other times the σκίρον, the large parasol (σκιάδειον) which the Athenians carried at the feast of the *skirophories*. In any case, the epithet binds the tholos to that sphere of shadow and obscurity which, in contrast to outside space,

characterizes the various forms of the protected enclosure, the interior: the underground world, the domestic space, the female abdomen.

It has been seen how the child that Agamemnon implanted in his hearth at the centre of the kingdom overshadowed, as it grew, all the land of Mycenae, or, in other words, extended to the farthermost limits of the territory the protective shadow which makes the house a covered shelter, an intimate realm where women can feel at home. (101) In contrast to the open air, dazzling with sun and light during the day and filled with dread in the dark of night, the hearth space, shaded and feminine, implies, in the semidarkness of the fireplace, security, tranquillity, and even a certain easy softness incompatible with a state of virility. Xenophon was later to say that artisans were moral cowards and physically soft because their trade obliged them to remain indoors and live in the shade, σκιατραφεῖσθαι, next to the fire, like women. (102) In the *Phaedrus*, Plato contrasts the strong and vigorous boys brought up ἐν ἡλίῳ καθαρῷ, out in the sunlight in the stadium and palestra (connected with Hermes), with those tender shoots lacking strength whose flesh is as white as that of women because they have been nourished, ὑπὸ συμμιγεῖ σκιᾷ, in the shelter of the twilight shadows. (103)

On this point the 'Homeric Hymn to Demeter' gives us more exact detail. (104) Demeter, wandering in the countryside after fleeing from her Olympian dwelling place, has stopped not far from a well. Seated in the shade, ἐν σκιῇ, under an olive shrub, she resembles an old woman such as a king's nurse or even a housekeeper (ταμίαι) in the depths of her home. The daughters of Keleos, ruler of Eleusis, see her. They are surprised to find her there, out-of-doors and they question her: 'Why have you left the city instead of drawing near to the houses? For there, in the *shady halls* are women of just such age as you and others younger.' (105) The μέγαρα σκιόεντα evoke the expression used by Apollo, in the 'Eumenides', to define the family status of Athena: he declares that this goddess never had a mother; she was not nursed on a shaded lap (ἐν σκότοισι νηδύος). (106) Does this comparison allow us to imagine that in the interplay of mythical themes, there is an association between the image of the shadowy house symbolized by Hestia and that of the shelter of a woman's lap? A study of the semantic values of a word like θάλαμος, itself related to θόλος, would seem to indicate that there is such an association. The word denotes the quarters reserved for the women in the farthest, most secret depths of the house. (107) Strictly

forbidden to the stranger (it is an interior space) and closed by a bolted door so that even the male slaves cannot have access (it is also a female space), (108) this heart of the human dwelling place, often described as μυχός, (109) carries a chthonic implication: the θάλαμος occasionally expresses the specific idea of an underground hiding place: Danae's prison, (110) Trophonius's cavern, (111) a tomb, (112) could all be termed θάλαμος. But at the same time θάλαμος is related to marriage. It denotes sometimes the young girl's room before her wedding, (113) and sometimes the nuptial chamber, or, more explicitly, the nuptial couch, (114) and the verb θαλαμεύω signifies to lead to the bridal bed, to marry. (115) Finally, a further meaning of the word θάλαμος is that of the hiding place in the secret fastnesses of the dwelling, (116) where a woman stows her reserve stores, those domestic riches over which she, as mistress of the house, rules. Sometimes it is the wife and sometimes the daughter who is described as the keeper of the keys to this secret 'treasure'. (117) Because she is dedicated to the interior, the woman's role is to store the goods that the man, directed towards the exterior, brings home to the house. From the point of view of economic activity, the woman personifies the act of storing and the man that of acquiring. The woman arranges, stores, and distributes within the *oikos* the riches the man has won through his labours outside. The sense of this polarity between the functions of the two sexes is so strong that it is expressed by both the adulators and detractors of women and always in the same type of comparison. In Xenophon, (118) the model wife is compared to the queen bee who dwells in the hive watching over the honey collected outside and seeing that it accumulates in abundance in the cells of the honeycombs (those circular alveoli which also bear the name of θάλαμος or θαλάμη). (119) In Hesiod, in contrast to the man laboriously toiling outside to increase the earth's riches and bring the necessities of life flowing to the house, the woman is represented in the heart of the hive, as a drone who stores the riches acquired by the bee-husband not in the θάλαμος of their mutual dwelling place but directly in the depths of her own stomach: 'she remains indoors, within the shelter of the covered hives and stores in her own belly the fruits of the toil of others.' (120)

If, as in Plato's own formula, the woman 'imitates' the earth by receiving the seed which the male implants in her, the house, like earth and woman, receives and keeps in its heart the wealth the man has brought to it. The enclosure of the dwelling place is intended not only to

shelter the family group. Domestic goods are also kept there where they can be gathered together, stored, and preserved. It is thus not surprising to see the goddess, who symbolizes the interior, the centre, and fixity, directly associated with this function of the dwelling place, which inclines the life of the *oikos* in two directions. First, and in contrast to the circulation of riches under Hermes's patronage (exchange, profits, and expenditure), there is a trend towards accumulation (a tendency which in ancient times took the form of collecting food supplies in jars in the storeroom and accumulating precious objects such as ἀγάλματα locked up in the coffers of the θάλαμος; when a monetary economy was established this became capitalization). Second - and in contrast with the communal forms of social life - there is the tendency towards appropriation. Within the framework of a distributive economy, (121) each house appears to be bound up with a plot of ground. Each household is separate and differentiated and wants to have full control of the κλῆρος on which it subsists and which distinguishes it from other domestic groups.

Under the title of Hestia Tamia, the hearth-goddess assumes this joint role of the concentration of wealth and the delimitation of the family patrimonies. In the palaces of the Homeric kings, the ταμία was the thrifty housekeeper who organized the household work and watched over the provisions. (122) In city times the word ταμίας was used to describe the treasurer administering the state funds or the sacred treasures, the property of the gods. There are two confirmations of Hestia as the patron of the gathering in of riches even in a later period. The first is in Artemidorus who states that when Hestia or images of her are seen in a dream by one who is a citizen, this symbolizes 'the public revenue funds'. (123) The second, connected with a ritual of Cos alluded to in a third-century inscription, includes a significant detail. It concerns a sacrifice to Zeus Polieus with whom Hestia is closely associated in the feast. Among the cattle presented by the groups of different tribes the animal to be sacrificed is selected after a long procedure probably similar to that employed at Athens at the *dipolies*. The victim, having thus been selected, is led to the *agora*. Its price, valued in terms of money, is publicly declared by the herald (κῆρυξ). Its owner then declares that his fellow citizens should pay this amount, not to him, but to Hestia. As Gernet remarks, the value of the bullock in a monetary economy is 'capitalized' by Hestia, who is guardian and guarantor of the wealth of the city. (124)

On the other hand, we should also stress Hestia's rela-

tionship with what this same writer calls a discretionary economy, dominated by the *suum cuique*. At Tegea the communal hearth of the Arcadians was associated with a Zeus Klerios, the apportioner (cf. κλῆρος, portion, patrimony) - an epithet which recalls the first allocation of Arcadian land divided by drawing lots between the three sons of Arcas. (125) In Athens, the first act of the archon (the magistrate who, we are told by Aristotle, (126) derives his office from the communal hearth, and who, from the earliest days, always resided in the prytaneum), (127) once he is installed, is to have proclaimed by the herald that 'all men shall hold, until the end of his office, those possessions and powers that they held before his entry into office.' (128)

Such testimony is concerned with the communal hearth, the Hestia of the city, become the centre of the state and symbol of the unity of the citizens. The better to appreciate it, we should place it in its historical perspective and relate it to what can be ascertained of a more ancient past, before the city-state, when Hestia was not yet the communal hearth but the family altar, and symbolized most specifically the superior virtues of the royal house. (129)

But there are two aspects to the wealth of the king - one could even say two opposite poles. On the one hand there are the goods that can be collected and stored in the palace: food supplies, of course, but also various types of ἀγάλματα - cloth; precious metals; *sacra* invested with power, used as symbols of authority; coats of arms; instruments of investiture. Penelope, in Odysseus's palace, goes down with her women into the depths of the θάλαμος where the master has locked up his treasures (130) of cloth placed in coffers, bronze, gold, and wrought iron, and lastly the bow which Odysseus alone can bend and which appears later in the poem as the instrument of his vengeance, the symbol and restorer of the lawful sovreignty. The word κειμήλια is applied to all these objects emphasizing that they are goods which are immobilized, intended to stay in place (cf. the verb κεῖμαι - to be laid, immobile). (131) The other aspect of royal wealth is represented by flocks and herds. (132) On the level of economic values these form a contrast to the treasure, as does the interior to the exterior, the static to the mobile, the domestic enclosure to the open space of the ἀγρός. In contrast to the world of town, house, and even cultivated fields, what the Greeks call ἀγρός is actually the pastoral sphere, land for pasturage, open country to which the animals are led or where wild animals are hunted - the wild and distant country filled with

herds. (133) When Xenophon contrasts men with beasts it is precisely because men need a roof over their heads, while herds live ἐν ὑπαίθρῳ. (134) Moreover the word denoting grazing stock, πρόβατον, is vivid enough: in its true meaning it signifies that which moves, that which goes forward. The phrase κειμήλιον καὶ πρόβασις (which, through the antinomy of κεῖμαι, to be lying down, and προβαίνω, to go forward, expresses the twofold aspect of wealth taken as a whole), (135) emphasizes clearly the contrast between riches that 'lie' in the house and those that 'run' in the country. Across the sweep of the ἀγρος the herdsman Hermes (136) (Hermes Ἀγροτήρ, Hermes Νόμιος) drives the flocks, controlling them with his magic staff. As god of the shepherds (137) he has power over them, just as Hestia, the domestic goddess, is patron of the goods within the house. (138) In the closing words of the 'Homeric Hymn to Hermes', Zeus commands 'that Hermes should be lord (ἀνάσσειν) over the cows in the fields, the horses and mules, the lions, the boars and the dogs, and over the sheep that the wide earth nourishes and over every four-legged animal (πᾶσι δ'ἐπὶ προβάτοισι).'

But it is not only in their wanderings that the herds exemplify the aspect of movement in wealth. They also constitute the first form of riches, which, instead of remaining constant, has the capacity to increase or diminish. First, because with the complicity of Hermes, the cattle thief, neighbours' lands can be raided and the booty added to one's own herds. And also because if Hermes ἐπιμήλιος, Hermes πολύμηλος (139) (of abundant herds) favours you the stock will multiply and your riches beget riches. Ownership and the preservation of goods are the domain of Hestia. But the movement of riches which can either increase or decrease, and acquisition and loss, depend, as does exchange, on the god, who, like Hecate, so Hesiod tells us, knows how to 'increase (ἀέξειν) the livestock in their sheds - the herds of cattle, the flocks of goats, the long columns of sheep heavy with wool: he makes the few the many and the many the few.' (140) Later on, in a fully mercantile economy the Greeks had no difficulty in recognizing the ancient god of the shepherds beneath the features of their god of trade. In the movement of money, which, through the action of interest, is self-increasing, they could still discern the increase of livestock multiplying at regular intervals. They used the same word, τοκος, for interest on capital and for the newly born animals brought forth at the turn of the year. (141)

The opposition between the hearth-space, enclosed and

stable, and the space of the countryside, open and variable, gives us a better understanding and a greater appreciation of a family feast such as the *amphidromia*. This ceremony was celebrated, according to circumstances, on the fifth, seventh, or tenth day after birth, and sometimes coincided with the naming of the infant. (142) But its true function was to consecrate the official recognition of the newborn child by its father. The ritual is obviously aimed at enrolling the child in the space of the *oikos*, attaching it to the hearth of which it is the issue. According to the evidence at our disposal, the ritual consisted of two parts between which a distinction should be made: on the one hand, the ring run round the hearth by one or more people, who would be naked, (143) holding the baby in their arms; on the other, the laying of the child at a given moment (probably before the running) directly on the ground. (144) In this rite of the *amphidromia* the two elements reinforce each other. Direct contact with the floor of the house completes the integration within the domestic space which is also brought about by the motion of the child describing a closed circle around the fixed hearth. Nevertheless, in certain legends in which these two rituals are closely associated, there is a strongly marked opposition between them in contrast with their various similarities. The tales concerning immortality stress the difference between two procedures followed for the newborn child: holding the infant over the hearth amid the flames, and putting it on the ground next to the hearth. The first procedure recalls the rite of immortality in the flames of the hearth, while the second, in contrast, demonstrates the failure of the attempts at immortality and the return to normal practice. If the child could have been completely purified by the fire, it would have become immortal. But when placed on the ground and included in the household space, it shares the ordinary condition of mankind. Thus, in the palace of Keleus, Demeter, nurse to Demophoon, starts by 'hiding' (κρύπτειν) the baby in the blazing fire as though it too were that spark (δαλός), which, as already mentioned, is identified in some myths with the royal scion. The goddess would thus have made Demophoon immortal had not the mother, witnessing the scene, uttered a cry of terror and called down reproaches on the stranger concealing her son in the flames. Incensed, Demeter snatches the child from the fire and puts him on the ground. 'I would have made your son deathless and unaging all his days,' she says to Metaneira, 'but now he can in no way escape death and the fates.' (145) The same strongly contrasted structure is found in the story

told by Apollonius Rhodius about Thetis's attempt to immortalize her son Achilles. (146) During the night the goddess puts the child into the heart of the fire to consume his mortal body. When Peleus sees Achilles in the falmes he cannot prevent himself from crying out. Angrily, Thetis casts the infant down on the ground and Achilles's fate is sealed. Child of man that he is, he is doomed to die. But there is one common feature which brings the two opposing procedures closer together, sometimes even makes them coincide, and that is that they are both ordeals imposed on the baby. No doubt the ordeal by fire appears infinitely greater and therefore relatively of greater import than simply being put down on the ground. But let there be no mistake: direct contact with the earth and the powers that dwell there, especially those chthonic deities associated with the realms of the dead, is also not without great peril. Legend informs us that placing the child upon the ground sometimes causes its death and sometimes ensures its immortality. It should also be remembered that the rite of immortality by fire in which the child is 'hidden' has an analogy in the parallel practice of Medea 'hiding' her children in the earth to make them immortal (κατακρυπτεία). (147) It is obvious that the two rites of immortality correspond and are in contrast with each other in the same way as are the two forms of funeral rites practised by the Greeks. The dead are sometimes 'hidden in fire' (incineration), sometimes 'hidden in the ground' (internment). In both cases their disappearance from the visible world is the condition and sign of their return to the other world. (148)

There are, furthermore, two symmetrical legends that illustrate at one and the same time the dangers and the virtues of contact with the ground. The first is the story of Hypsipyle. (149) She is nurse to Opheltes, and makes the mistake of laying on the ground for a moment the royal infant entrusted to her by the parents. The child is bitten by a snake, the incarnation of the chthonic powers, and dies instantly. Had not an oracle advised that he should never be placed on the ground before he was able to walk? (150) The other story takes us in the opposite direction. The Elians are defending their territory against the Arcadians who have invaded it. Before the battle a woman with a baby at her breast suddenly appears. Claiming to be inspired by a dream, she offers her child to the Elians, to fight with them. The military leaders accept the child from her, carry it out in front of the army and lay it naked on the ground. At once the newborn child turns into a snake. At the sight of the serpent the enemy camp is thrown into confusion and

routed. At the exact spot where the child disappeared into the ground the Elians erect a sanctuary dedicated to the child-god Sosipolis, the native daemon (δαίμων ἐπιχώριος) that their land, in the name of the goddess-mother, Eileithyia, made to appear in the midst of men in order to help them. (151)

Naturally, the significance of being put down on the ground differs according to whether the newborn child is placed in contact with the humanized ground within the house or the untamed ground of the great outside. In the context of the *amphidromia*, placing the infant on the ground close to the hearth, within the circle traced by the ritual ring run round Hestia, (152) has the value of a trial resulting in legitimation. When the ceremony is over, the newborn babe, joined to the domestic hearth, is accepted, 'recognized', by its father. The *amphidromia*, the rite of integration within the family space and the paternal line of descent, has its counterpart in the practices connected with the rejection of a child and its exclusion from the enclosed space of the *oikos*. This is the point of the rites of exposure in Greece. In exposure, as in the *amphidromia*, the infant is placed on the ground. (This action of placing is expressed by the verb τίθημι). But the locality chosen is the opposite of the household enclosure or the cultivated land in the neighbourhood, and is instead the wild and distant countryside. (153) In some cases it can be the sea or a river, in that these can be symbols of the other world. But above all it is the uncultivated land where the flocks and herds live, far from houses, gardens, and fields - the alien and hostile space of the *agros*. In the heroic myths everything combines to depict the setting of a pastoral landscape around the exposed child. The parents, who reject their offspring from the world of the living, entrust the infant to a shepherd to carry it away and abandon it on the heaths or the hills, on the wastelands where he leads his flocks to pasture. Another shepherd discovers the child and gives it a home. It grows up among the herds and flocks. Sometimes wild animals succour it.

The antinomy present in the feast of the *amphidromia* and the rites of exposure, with their alternative implications (154) is stressed in the famous 'Theatetus' passage in which Socrates compares himself, in assisting the birth of minds, to his mother, the midwife. (155) Like the *maia* who helps deliver women in labour, Socrates helps young men bring forth the truths they contain within themselves and are unable to express. But his art goes further than that of the ordinary midwife. It is also

his duty to put the child that is born to the test (βασανίζειν) in order to detect whether it is a deceitful sham (εἴδωλον καὶ Ψεῦδος) or a product of genuine and sound stock (γόνιμόν τε καὶ ἀληθές). (156)

And what is this test? And what is the outcome if the child appears incapable of passing it successfully? Socrates explains with great clarity. When young Theatetus has succeeded, at the cost of violent effort and with the help of the philosopher, in giving birth to the product of his mind, Socrates addresses him in these words:

> Well, we have at last managed to bring this forth, whatever it turns out to be; and now that it is born, we must in very truth perform the rite (*amphidromia*) of running round with it in a circle - the circle of our argument - and see whether it may not turn out to be, after all, not worth rearing, but only a wind-egg, an impostor. But perhaps you think that any offspring of yours ought to be cared for and not put away (τρέφειν καὶ μὴ ἀποτιθέναι)? Or will you bear to see it examined and not get angry if it is taken away from you, though it is your first-born? (157)

This Platonic text should be compared with the information given us by Plutarch, on related Lacedaemonian customs. The community spirit that is a characteristic of the city of Sparta leaves no room for the *amphidromia* in their traditional form. As it is no longer a question of uniting the newborn child either to its father's hearth or the family κλῆρος, but of including it in the civic community of the equals, the progenitor is deprived of his authority in deciding the fate of his offspring. But the dilemma has still to be resolved: should the child be nurtured (τρέφειν), that is, integrated in the group space, or should it be exposed (ἀποτιθέναι), that is, ejected from the mortal world?

> Offspring was not reared at the will of the father, but was taken and carried by him to a place called the *leschè*, where the elders of the tribes officially examined the infant, and if it was well-built and sturdy, they ordered the father to rear it, and assigned it one of the nine thousand lots of land as a κλῆρος; but if it was ill-born or deformed they sent it to the so-called *apothetai* (ἀποθέται). (158)

Plutarch's comment following this passage emphasizes the aspect of ordeal on which Plato too insists. Plutarch points out that, for reasons he has already stated, the women of Sparta bathe the newborn children, not with water, but with wine, 'thus making a sort of test (βάσανον) of their constitutions.'

As we have seen, the feast of the *amphidromia* focused on the hearth implies, in terms of the space with which it is concerned, that same polarity expressed for the Greeks, in the arrangement of their pantheon, by the Hermes-Hestia couple. And we have, therefore, to extend our investigations to further rituals concerning the hearth-goddess, in order to discover what form of spatial representation they may involve.

Two examples, in this respect, seem particularly illuminating. Knowledge of the first comes from a text of Plutarch's, who is a first-hand witness as it is about a ritual in Chaeronia, the birthplace of the author. (159) The rite of expulsion of hunger (βουλίμου ἐξέλασις), in the Beotian city, took place on two levels: each individual conducted the rites for his own family within the home, and at the same time the *archon* followed the ritual on behalf of the group, at the communal hearth of the city. The ceremony was identical in the two cases. A slave was beaten with a willow rod (ῥάβδος), (160) and pushed outside across the threshold, while the exclamation: 'Hunger out, Riches and Health within' (161) was pronounced. The rite is based on the opposition between an enclosed and fixed interior where the wealth is kept (Hestia), and the exterior to which the injurious forces of hunger are expelled with the very staff of Hermes.

In Athens the same opposition characterizes the organization of the space where the Πρυτανεῖον, the seat of Hestia Koine, is situated. In its immediate vicinity was a piece of land dedicated to Βούλιμος, Hunger. (162) This was evidently a field which was always left to lie fallow, and which, lying in the heart of the humanized space of the city, represented the wild land which man must not lay hands on for this would be a sacrilege for which the punishment was famine. (163) In relation to the Πρυτανεῖον, the Βούλιμος field is, therefore, the counterpart of the Βουζύγιον, the field at the very foot of the Acropolis which was annually subjected to a ritual ploughing by the Βουζύγης, (164) in the name of the city. One further point should be made: while conducting the ploughing ceremony which periodically renewed the union between the original Athenian peoples and their native soil, and deconsecrated the Attic earth for them to use and cultivate freely, the Βουζύγης uttered curses which fell on the newly turned soil and ensured its productivity. The priest anathematized on the one hand 'Those who refuse to share water and fire' (referring to the space of hospitality - Hestia), and, on the other, 'Those who do not point the way for wanderers, πλανωμένοις' (referring to the space of the traveller - Hermes). (165)

The second example is from the Achaean city of Phares, near Patrai. (166) It concerns a divinitory ritual of a rather special kind which associates Hestia and Hermes very closely. A stone statue of Hermes, bearded and foursquare, stands in the middle of a vast *agora*, surrounded by a perobolus. Oracles are uttered by the god who is called ἀγοραῖος. Facing this statue of Hermes is a hearth (Hestia). It includes, besides the altar, a number of bronze lamps bound with lead. The procedure for the delivery of oracles was as follows. At dusk, the person consulting the oracle enters the *agora*. First he goes to the hearth where he burns incense, fills the lamps with oil, and lights them. Then he puts on the altar of Hestia a coin of the country, no doubt sacred, and termed a 'bronze'. Then only does he turn to Hermes and whisper in the god's ear the question he wants answered. Having done this, he puts his hands over his ears and walks off to get out of the *agora*. As soon as he has left the perobolus and got outside (ἐς τὸ ἐκτός), he removes his hands from his ears, and the first voice he hears, as he goes on his way, will provide him with the god's answer.

In this instance the *agora* is a circumscribed place round a specific centre, under the twofold patronage of Hermes ἀγοραῖος and Hestia. It is in front of Hestia, in the centre, that the person coming from outside to consult the oracle first stops. By contact with the hearth in the actions of incense burning and lamplighting all round the goddess, the stranger is infused with the religious qualities necessary to be able to consult the local oracle. And he pays his consultation fee to Hestia because it is she, in the divine couple, who represents the force of permanency and storage. In contrast, the way in which the oracle is consulted emphasizes the volatile aspect of Hermes. The god's answer is revealed firstly through the very movement of the questioner who must start walking before he can learn it; second, at the moment he leaves the enclosed space of the *agora*, when he enters exterior space; third, in catching the sound of a voice - an elusive, faint, imperceptible φωνή, the voice of the firstcomer who happens to cross his path; last, in the distance which is imposed between the question asked in the centre of the *agora* (in the same way as the consultation fee is paid in the centre, there to remain forever), and the answer supplied by the outside, in a space other than that in which his statue is erected.

This study took as its point of departure the presence in the Greek pantheon of a particular and well-attested

structure - the Hestia-Hermes couple. From analyses of texts which stress the bonds uniting the god and goddess has emerged the relationship each has with specific and contrary aspects of space. This has led us to abandon the domain of purely religious representation and to direct our study no longer exclusively to the ideas of the Greeks regarding their gods, but towards the social systems of which these ideas seem a part. The various institutions discussed refer specifically, in the very way they function, to the hearth and the religious values it represents. This body of institutional practices, gravitating round the hearth established as a fixed centre, expresses one aspect of the archaic experience of space in ancient Greece. To the extent that these practices constitute a well-regulated and orderly system of conduct they imply a mental organization of space.

Whether concerned with facts affecting marriage, family relationships, lines of descent, the heritage of the family κλῆρος, the domestic status of husbands and wives, the social and psychological contrasts between men and women, their activities within the house and outside, the double aspect of wealth and of land improvement - our aim has always been to throw light on the structures of thought pertaining to space, as testified in the interplay of symbolic representations and structures of behaviour. It seems that the spatial values associated with a centre, immobile and withdrawn, had their regular counterpart in the opposite values of an open space, unstable, a place of distance, contacts, and change.

Nevertheless, the analysis has been one-sided. We have consistently approached it from the point of view of Hestia and the centre. So Hermes has been seen only as Hestia's complement, the god appearing as the antithesis of the goddess. In order, therefore, to complete the study of the relationship of these two deities, the approach should be changed and the investigation carried out from the converse point of view, this time from the standpoint of Hermes, through the study of the groups of images evoked by the god in the Greek conscience and the activities and institutions of which he is the patron. But before abandoning the subject of Hestia it should also be pointed out that the polarity that is so marked a characteristic of all the goddess's relations with Hermes is such a basic feature of archaic thought that it appears as an integral attribute of the hearth-goddess, as though part of Hestia already belonged to Hermes.

In order to fulfil her function as the power conferring on domestic space its centre, its permanence, and its confines, Hestia, as has been said, must root the human

dwelling place in the ground. This is the significance of the Mycenaean hearth, that *fixed* altar-hearth. This in fact gives a chthonic aspect to the 'epichthonic' goddess dwelling on the earth's surface. Through her the house and the household enter into contact with the underworld. In a fragment of the 'Phaethon', (167) Euripides identifies Hestia with Demeter's daughter, Kore, who, sometimes reigning at Hades's side and sometimes living in the world of men, is responsible for establishing communication and passage between two worlds separated by an insurmountable barrier.

Furthermore, in the Mycenaean *megaron* the circular hearth welded to the ground is in the centre of a rectangular space bounded by four columns. These reach to the roof of the house where they enclose an open lantern through which the smoke escapes. When incense is burned, or meat is cooked on the hearth, or when, during a meal, the portion of food dedicated to the gods is consumed by the flames of the fire lit on her domestic altar, Hestia sends the family offerings up to the dwelling place of the Olympian gods. Contact between earth and the heavens is established through her in the same way as she acts as a passageway to the infernal regions.

The centre, of which Hestia is the patron, represents for the domestic group that spot of earth which enables terrestrial space to be stabilized, demarcated, and determined. But it also, conjointly, represents the passageway *par excellence*, the channel of communication between normally separate and isolated cosmic levels. For members of the *oikos* the hearth, the centre of the house, also marks the path of exchange with the gods beneath and the gods above, the axis through which all parts of the universe are joined together. Another image evoked by the hearth is that of the mast of a ship firmly stepped in the deck and raised straight up towards the sky.

Should we believe, like Louis Deroy, that there is an early link between the hearth and the mast or colonnade, postulated by the lexicographical analogy, which, even in Homer's language, changed the old word ἑστίη, hearth, into ἱστίη, which means a colonnade, the confusion of the two terms being explained by the fact that the Mycenaean hearth was surrounded by wooden pillars, ἱστοί, supporting the roof-lantern (μέλαθρον)? (168) Hesychius, we know, comments that ἱστία = the altar of the hearth (ἐσχάρα) and the mast of a ship; and again that ἱστία = the woman who weaves, because ἱστός also denotes, apart from column and mast, a loom (always upright among the Greeks) which seems firmly fixed in the ground while reaching upwards.

It should be noted, in any case, that in Plato, who is

so faithful to the teachings of the sacred writings and the suggestions of the ancient myths, the figure of Hestia, alone of all the gods to remain immobile at home, (169) is merged, in the final myth of the 'Republic', (170) with the great goddess Anagke, the Spinner, enthroned at the centre of the universe. On her knees Anagke holds the spindle whose movement controls the rotation of all the celestial spheres. It is itself fixed to the great shaft of light in the centre of which Anagke is seated, and which, rising straight as a mast or a column, stretches from top to bottom right through the sky and the earth, uniting the entire cosmos in the same way as the various parts of a boat are linked together from prow to poop.

Immobile, but mistress of the movements around her, central in the same way as a main shaft traversing a machine throughout and holding its component parts together: this is the image of Hestia that Plato appears to have inherited from the oldest of the Greek religious traditions. That is why when he claims, in the linguistic game of the 'Cratylus', (171) to reveal the secrets of the divine names, Plato, the academy philosopher, suggests a double etymology for the word Hestia. Of his two contrary explanations Plato certainly gives his preference to one rather than the other. But it is very significant that he should present them, in spite of their antinomy, as two equally possible interpretations of the same divine name. For some Hestia corresponds with οὐσία, which, in Greek, is sometimes also called ἐσσία, that is, the immutable and permanent essence. But for others essence is termed ὠσία because, like Heraclitus, they think that all that exists is mobile and that nothing remains static. According to these latter everything is caused by and based on the impetus of movement (τὸ ὠθοῦν) which they term ὠσία.

Hestia as the principle of permanence, Hestia as the principle of impetus and movement - in this twofold and contradictory interpretation of the name of the hearth-goddess we recognize the very foundations of the relationship which opposes and unites, in a single contrasted couple joined in unbreakable 'friendship', the goddess who immobilizes space around a fixed centre and the god who renders it completely and everlastingly mobile.

NOTES

1 'Revue française d'anthropologie' (1963), 3, 12-50.
2 Pausanias 5. 11, 8.

3 On the Sosibios vase, Hermes follows Hestia (cf. P. Raingeard, 'Hermès psychagogue: essai sur les origines du culte d'Hermès' (Paris, 1934), 500); bicephalic columns with masculine and feminine heads of Hermes and Hestia (cf. W. Frohner, 'Sculptures du Louvre', 1; 220, notes 198 and 199); on Hermes, habitually associated with Hestia as a couple among the twelve gods (cf. A.B. Cook, 'Zeus: A Study in Ancient Religion', 3: 2, 1057 ff.).

4 'Homeric Hymn to Hestia' l. ll ff.; cf. also lines 1-2: 'in high dwellings of all who walk on earth (χαμαί). In his 'Interpretation of Dreams', Artemidorus classes Hestia and Hermes among the epichtonian deities in contrast to the celestial and subterranean gods.

5 'Homeric Hymn to Aphrodite' 29-30.

6 'Phaedrus' 247a.

7 Euripides frg. 983N^2; cf. Macrobius 1, 23: 'If Hestia remains alone in the house of the gods, it means that the earth remains motionless at the centre of the universe.' Cf. also the saying of Philolaos: 'That One who remains in the middle of the sphere is named Hestia' (H. Diels and W. Kranz, 'Die Fragmente der Vorsokratiker' (7th edn, Berlin 1956), 1: 410, 12). Note also the expression in the 'Homeric Hymn' (line 3): 'Hestia's status in the home is immutable' (ἕδρην ἀΐδιον).

8 Homer 'Iliad' 24. 334-5.

9 Aristophanes 'Peace' 392.

10 'Homeric Hymn to Hermes' 14-15.

11 Ibid. 146-7.

12 The triple or quadruple representation of the face of the god was precisely what enabled him to control simultaneously all directions in space.

13 L.R. Farnell, 'The Cults of the Greek States' (Oxford, 1896), 5: 62, note 2.

14 Aeschylus 'Choephoroi' 124 ff.

15 Plutarch 'De Garrulitate' 502F.

16 Cf. also J. Orgogozo's recent interesting study, L'Hermès des Achéens, 'Revue de l'histoire des religions' (1949), 10-30; and (1950), 139 ff.

17 See references in L. Deroy's Le culte du foyer dans la Grèce mycénienne, 'Revue de l'histoire des religions' (1950), 32, note 1.

18 Cf. Louis Gernet, Sur le symbolisme politique en Grèce ancienne: le foyer commun, 'Cahiers internationaux de sociologie', 11 (1951), 29. In his 'Life of Numa' 9-11, Plutarch remarks that the tradition was maintained in Greece of a female priesthood

to tend the sacred fires. The responsibility fell not upon virgins, as in Rome, but on women abstaining from all sexual relations. During the city period, the ministry of the communal hearth became essentially a political function and was for this reason reserved for men. It should be noted that, already in Homer, the cult of Hestia was relegated to the background.

19 Deroy, Le culte, 26-43.

20 On the 'generating' fire, see Plutarch 'Life of Camillus' 20. 4; 'Quaest. Conviv.' 7. 4, 3.

21 'Homeric Hymn to Aphrodite' 20-30.

22 Concerning the rites which, on the eve of marriage, mark the renunciation of the previous state, cf. Euripides 'Iphigenia in Tauris' 372-5, and the remarks of L. Séchan, La légende d'Hippolyte dans l'antiquité, 'Revue des études grecques' (1911), 115 ff. On the rite of hair shearing, for marriage as for mourning a relative, cf. 'Palatine Anthology' 6. 276, 277, 280, 281. In Sparta the young bride's head was shaved all over, Plutarch 'Life of Lycugus' 15. 5.

23 On the καταχύσματα, the rites concerning the integration of the wife in the household of her husband, cf. E. Samter, 'Familienfeste der Griechen und Romer' (Berlin, 1901), 159. The bride was led to the hearth, perhaps even seated beside it (in the crouching attitude of the suppliant), and her head was covered with sweetmeats, τραγήματα, particularly dried fruit, dates, nuts, figs. The same ritual was followed with a new slave on his first entering the house to which he was to belong. In that case it was the mistress of the house (δέσποινα) who officiated as the representative of the hearth.

24 On Charis, presiding over free exchange and gift giving, cf. Aristotle 'Nicomachean Ethics' 1133a 2; R.A. Gauthier and J.Y. Jolif, in their commentary on this work ((Louvain-Paris, 1959), 2: 375) do not seem to have appreciated the significance of this passage.

25 Plutarch 'Eroticos' 751d.

26 Hermes, associated with Aphrodite in her role as Πειθώ: inscription of Mytilene to Aphrodite Πειθώ, and, among others, Hermes, 'I.G.' 12. 2, 73; Plutarch 'Conjug. Praec.' 138c. Associated with Aphrodite in her role as the 'schemer' (Μαχανῖτις), Pausanias 8. 31, 6; when she is Ψίθυρος of the 'seductive murmurings', cf. Harpocraton s.v. Ψιθυριστής: the Athenians worshipped Hermes under this name in association with Aphrodite and Eros.

On Hermes Πεισίνους, at Cnidos, cf. Farnell, 'Cults', 70, note 43.

27 'A virtuous woman should stay at home; only light women appear on the streets,' Menander frg. 546, Edmonds.

28 Xenophon 'Oeconomicus' 7. 30; cf. Hierocles in 'Stobaeus' 4. 1, 502H. 'Man's job is in the fields, in the *agora*, the affairs of the city; women's work is spinning wool, baking bread, keeping house.' In the 'Against Neaera' 122, Demosthenes, defining the married state (τὸ συνοικεῖν), gives special emphasis to the domestic vocation of the spouse as the guardian of her husband's hearth in contrast to the functions of courtesans and concubines: 'Mistresses we keep for the sake of pleasure, concubines for the daily care of our persons, but wives to bear us legitimate children and to be faithful guardians of our households, τῶν ἔνδον φύλακα πιστήν.'

29 Aeschylus 'Eumenides' 658-61; cf. also Euripides 'Orestes' 552-5, and 'Hillolytus' 616 ff.

30 Aristotle 'Generation of Animals' 1. 20, 729a. 'A theory of this type, deprived of all contact with the object is pure myth,' remarks Marie Delcourt in 'Oreste et Alcmeon: Étude sur la projection légendaire du matricide en Grèce' (Paris, 1959), 85.

31 On Meleager, cf. Apollodorus 1. 8, 2; Aeschylus 'Choephoroi' 607 ff. The brand (δαλός) in the hearth is a kind of 'double' or the outsoul of Meleager. The child will die when the brand, placed in a casket (λάρναξ) by his mother, is consumed by fire. This was decided by the *moirai* seven days after his birth - a date which corresponds, as we shall see, with the celebration of the *amphidromia*, the rites which integrate the newborn child into the home of its father. On Demaphoon, cf. 'Homeric Hymn to Demeter' 239 ff. The goddess, nurse to the royal baby, hides it in the fire like a brand (δαλός).

32 Legends of Caelculus and Servius Tullus. The comparison is made by Gernet, Sur le symbolisme, 27.

33 Ibid., 27.

34 Cf. A. Aymard, L'idée de travail dans la Grèce archaique, 'Journal de Psychologie' (1948), 29-50.

35 Cf. Euripides's 'Electra' 1088 ff.: Clytemnestra brought the palace of Agamemnon to Aegisthus as the price of her new marriage.

36 Aeschylus 'Agamemnon' 1587 and 1435.

37 In this connection, I should like to refer the reader to the very perceptive and careful study by R.P. Winnington-Ingram, Clytemnestra and the vote of Athena, 'Journal of Hellenic Studies' (1948), 130-47.

38 A few references, as a guide, to the three tragic poets who handled the same theme: Aeschylus 'Agamemnon' 1224, 1259, 1625 ff., 1635, 1665, 1671; 'Choephoroi' 304; Sophocles 'Electra' 299-302; Euripides 'Electra' 917, 930, 950.

39 Aeschylus 'Agamemnon' 10-11, 258, 1251, 1258, 1377 ff.; cf. also the irony of 483 and 592 ff.; 'Chorphoroi' 664 ff.; Sophocles 'Electra' 650 ff., 1243; Euripides 'Electra' 930 ff.

40 Winnington-Ingram, Clytemnestra.

41 Sophocles 'Electra' 416 ff.

42 On the similarities and differences between the ῥάβδος, Hermes's magic wand, and the σκῆπτρον with which eventually the former was merged, cf. Jane Harrison, 'Prolegomena to the Study of Greek Religion' (Cambridge, 1903), reprinted New York, 1957, 44 ff. The ῥάβδος is a stick held in the air, used to hit with ('Odyssey' 10. 236); it is waved (ibid. 24. 1-9); it is never held still (Pindar 'Olympics' odes 9. 33). In contrast one supports oneself generally on the σκῆπτρον which is like a walking stick (βάκτρον) held upright with one end placed on the ground. Thus, to throw the σκῆπτρον down during a meeting of the assembly, as did Achilles ('Iliad' 1. 245), takes the meaning of a rejection of the royal authority and a break in the solidarity of the group.

43 Aeschylus 'Agamemnon' 966-70; 'Choephoroi' 204, 236, 503; Orestes is the root, ῥίζα, the seed, σπέρμα, of the house of the Atridae; the same image is found in Sophocles 'Electra' 764-5.

44 Euripides 'Electra' 1052-4.

45 Aeschylus 'Agamemnon' 1251-2, 1604-10, 1633, 1643; Sophocles 'Electra' 561. In Greece, as among the German tribes, the woman, because of her sex, could not herself exact a bloody vengeance: σιδηροφορεῖν was an exclusively masculine prerogative; cf. G. Glotz, 'La Solidarité de la famille dans le droit criminelle en Grèce' (Paris, 1904), 82.

46 Aeschylus 'Agamemnon' 1379, 1672-3; Sophocles 'Electra' 651.

47 Aeschylus 'Agamemnon' 1435.

48 Sophocles 'Electra' 97 and 587; Euripides 'Electra' 1035 ff.

49 Sophocles 'Electra' 533.

50 Aeschylus 'Agamemnon' 1225.

51 Euripides 'Electra' 930 ff.; Sophocles 'Electra' 365.

52 Euripides 'Orestes' 1045-1148.

53 Sophocles 'Electra' 1145-8.

54 Aeschylus 'Choephoroi' 264.
55 Masterful nature of Electra: Sophocles 'Electra' 351, 397, 401, 983, 997, and 1019-20, in which the similarity with Clytemnestra is stressed; Euripides 'Electra' 982; 'Orestes' 1204. Electra, authoritative and passionate like her mother: Sophocles 'Electra' 605 ff., 621.
56 Sophocles 'Electra' 962.
57 Electra 'virgin': Aeschylus 'Choephoroi' 140, 486; Sophocles 'Electra' 1183; Euripides 'Electra' 23, 42, 98, 255, 270, 311, 945; 'Orestes' 26, 72, 206, 251.
58 Sophocles 'Electra' 341 ff., 365; Euripides 'Electra' 1102-4.
59 Aeschylus 'Eumenides' 736 ff.
60 Aeschylus 'Agamemnon' 62.
61 Ibid. 1231.
62 Aeschylus 'Eumenides' 213 ff.
63 Sophocles 'Electra' 97; Euripides 'Electra' 1035: in taking Aegisthus as her lover, Clytemnestra is only following the example of Agamemnon bringing Cassandra back as concubine.
64 The marriage of brother and sister born of the *same father* is not completely forbidden; that of the brother and sister born of the *same mother* is strictly prohibited. It should be remembered that the term ἀδελφός, brother, is related to female consanguinity: it originally denoted issue from the same womb.
65 On the woman offered in wedlock as ποινή of the vendetta, cf. Glotz, 'Solidarité', 130.
66 The ritual bears witness to the persistency of this aspect of abduction in marriage; Plutarch 'Life of Lycurgus' 15, 5; 'Roman Questions' 271d 29.
67 Aeschylus 'Seven against Thebes' 754; Sophocles 'Oedipus Rex' 1257, 'Antigone' 569; Euripides 'Orestes' 553; 'Medea' 1281; 'Ion' 1095. Cf. Dieterich, 'Mutter Erde' (1905), 47.
68 Plato 'Cratylus' 406b; 'Laws' 839a.
69 Menander 'Perikeiromene' 435-6, frg. 720, Edmonds: Ταυτὴνγνησίων παίδων ἐπ' ἀρότῳ σοι δίδωμι. Cf. E. Benveniste, Liber et liberi, 'Rev. études latines', 14 (1936), 51-8.
70 Plutarch 'Conjug. Praecepta' 144b.
71 Sophocles 'Electra' 421-3; Aeschylus 'Agamemnon' 966.
72 Hesiod 'Works and Days' 232 ff.
73 Hesiod 'Theogony' 969-71.
74 'Homeric Hymn to Hestia' l. 5 ff.; cf. Cicero 'De Natura Deorum': 'in ea dea, omnis et precatio et

sacrificatio extrema est.' Cornutus c. 28: Hestia is at once πρώτη and ἐσχάτη; she is the beginning and the end.

75 Aristotle 'Politics' 1252b 15.

76 Zenobius 4. 44; Diogenianus 2. 40.

77 As did Ulysses in the palace of Alcinous 'Odyssey' 7. 153-4.

78 'Nemean Odes' 11. 1 ff.

79 Cf. Gernet, Sur le symbolisme.

80 On the καταχύσματα rites, see above, p. 92. The bonds between the man and his wife are the same as those which unite two antagonistic groups who have become guests and allies after an exchange of oaths has substituted a peace agreement between them for a state of war. It is the same word, φιλότης, which denotes intimate relations between spouses and the contract that establishes a fictitious relationship between recent antagonists with a view to binding them by reciprocal obligations. Cf. Glotz, 'Solidarité', 22. In the love story of Aphrodite and Ares there is no doubt some phrase-spinning, but basically what we see here are institutional realities with all the behaviour patterns and psychological attitudes that they govern. On the ties uniting the wife to the home of her husband, cf. Euripides 'Alcestis' 162 ff. Before dying, Alcestis invokes Hestia, the domestic goddess of the conjugal hearth. She addresses her as δέσποινα, mistress, and entrusts her children to her.

81 Euripides frg. 928N^2; cf. also Menander, περὶ ἐπιδεικτίκων, in 'Rhet. Graec.' 3. 275, Spengel: 'The young husband about to have sexual relations should be urged to pray to Eros, to Hestia, and the deities of procreation.'

82 Porphyry in Eusebius 'Praeparatio Evangelica' 3. 11, 7.

83 Cf. L. Beauchet, 'Histoire du droit privé de la République Athénienne' (Paris, 1897), 1: 399 ff.

84 'Laws of Manu' 9, 127 ff.

85 Plato 'Laws' 924e ff. The same regulations for degrees of affinity in inheritance: Isaeus 'The Succession of Hagnias' 1-2 and 11; Demosthenes 'Against Macartatos' 51.

86 The question even arises whether the son of the *epikleros* may have assumed the functions of the κύριος of his mother, thus taking the legal role of the brother. A practice such as that of the *epikleros* could, it seems, throw some light on the psychological relations, in the tragedy, between

Electra and Orestes. We have seen that Electra, in relation to Orestes, is as much a mother as a sister. The *epikleros*, in relation to her son, is as much a sister as a mother.

87 It is now the husband's turn to be 'neutralized', in that he represents a home which is not that of his father. His kinship with the father of his wife is at once the sign and instrument of this neutralization. In fact, in the case of a man, the mere συνοίκησις would not suffice seeing that the man, unlike the woman, has no domestic vocation, and cannot assume the attributes of the home. It is by blood, by race, that the man is bound to the house, or, if that be lacking, by an act of adoption which also establishes a direct link between father and son, an agnatic relationship; cf. Beauchet, 'Histoire', 2: 7.

88 Cf. P. Roussel, L'Hestia à l'Omphalos, 'Revue Archéologique', 2 (1911), 86-91.

89 Cf. Aeschylus 'Eumenides' 165 and 168; and J. Audiat's study, L'hymne d'Aristonos à Hestia, 'Bulletin de correspondence hellénique'.

90 Cf. Gernet, Sur le symbolisme, 22.

91 M. Delcourt, 'L'oracle de Delphes' (Paris, 1955), 144-9.

92 The *omphalos* is 'the principle for the rootedness and growth of the embryo (ῥιζώσιος καὶ ἀναφύσιος τοῦ πρώτου)', Philolaos, ap. Diels 'FVS'7, 1; 413, 6-7.

93 Artemidorus 1. 43 (quoted by Delcourt, 'L'oracle', 145). As regards the expression ἐπὶ ζένης, the parallelism with Hestia should be noted, in 4. 34 and 5. 27.

94 Artemidorus 1. 74.

95 Ibid. 2. 10. On the relationship between the oven and the female abdomen, cf. Herodotus 5. 92, 5 ff.: to put bread in a cold oven meant to be joined with a woman when she was dead.

96 Hermes *tetragonos*, cf. Heraclitus 'Quaest. Homer' 72, 6.

97 The expression of Hippocrates in 'Regimen' 4. 92 comes to mind: 'For from the dead comes nourishment, growth and seed.'

98 Cf. F. Robert, 'Thymélé: Recherches sur la signification et la destination des monuments circulaires dans l'architecture réligieuse de la Grèce (Paris, 1939).

99 Gernet, Sur le symbolisme, 24.

100 Pausanias 8. 9, 5; cf. also J. Charbonneaux, Tholos et Prytanée, 'Bulletin de correspondance hellénique' (1925), 158-78.

101 Sophocles 'Electra' 416 ff. This text should be compared with the 'Agamemnon' of Aeschylus 965 ff. In both cases the man is the root (ῥίζα) implanted in the earth, which, developing into a tree protecting the house, confers on the hearth (ἑστία) its 'shadowed' character. Aeschylus makes Clytemnestra say, when she is pretending to welcome Agamemnon joyously on his return: 'For if the root still lives, leafage comes again to the house and spreads its over-reaching shade against the scorching dog-star; so, now that thou hast come to hearth and home, thou showest that warmth hath come in winter-time; aye, and when Zeus maketh wine from the bitter grape, then forthwith there is coolness (Ψῦχος).'

102 Xenophon 'Oeconomicus' 4. 2.

103 'Phaedrus' 239c - Agesilaus, wishing to persuade his soldiers that in their Asiatic adversaries they would be fighting against women rather than men, had the prisoners he had captured stripped naked. Their bodies, soft and white from a lifetime spent in the shade of the house, never removing their clothes for physical exercise in the palaestra, aroused the contempt and derision of the Spartans; Xenophon 'Hellenica' 3. 4, 19; Plutarch 'Life of Agesilaus' 600e; 'Apophtegm. Lac.' 209c; 'Roman Questions' 28. In vase paintings female figures were conventionally pictured as white-skinned in contrast to brown-skinned men.

104 'Homeric Hymn to Demeter' 98 ff.

105 Ibid. 113-17.

106 Aeschylus 'Eumenides' 665; cf. the expression used by Aristophanes 'The Birds' 694: in the bottomless matrix of obscurity, Ἐρέβους δ' ἐν ἀπείροσι κόλποις.

107 Cf. 'Odyssey' 23. 41 ff.: while the slaughter of the suitors is taking place in the *megaron*, all the women of the palace hide themselves in the depths of their chambers (μυχῷ θαλάμων), with their heavy walls and bolted doors.

108 Cf. Xenophon 'Oeconomicus' 9. 3.

109 On the relationship between μυχός (cavern, pit above the level of the ground) and θαλάμος, cf. A.J. Festugière, Les mystères de Dionysos, 'Revue biblique', 44 (April-July 1935), 382; L.R. Palmer, The Homeric and the Indo-European House, 'Transactions of the Philological Society' (1947), 92-120. The term μυχός can also denote the low altar-hearth (*eschara*). Cf. Euripides 'Medea' 397: μυχοῖς ἑστίας, the depths of the hearth.

110 Sophocles 'Antigone' 947.

111 Euripides 'Ion' 394.
112 Euripides 'The Suppliants' 980.
113 Homer 'Odyssey' 7. 7.
114 Homer 'Iliad' 18. 492; Pindar 'Pythian Odes' 2. 60. Pollux defines the θάλαμος as the place of conjugal union (τόπος τοῦ γάμου).
115 Heliodorus 4. 6.
116 Homer 'Odyssey' 21. 8-9. The expression θάλαμον ἔσχατον should be remembered and compared with Aesychius's glossary: Hestia: ἐσχάτη (the ultimate, at the end). We know that, according to Cornutus 'Theol.' 28, Hestia is both πρώτη and ἐσχάτη, the first and the last.
117 The woman, mistress of the keys to the treasure: Aeschylus 'Agamemnon' 609-10; the virgin daughter holding the same privilege: Aeschylus 'Eumenides' 827-8.
118 Xenophon 'Oeconomicus' 7. 20-1, 25, 35-6; in 39, the wife says to her husband, 'For my care of the goods indoors (ἔνδον) and my management would look rather ridiculous, I fancy, if you did not see that something is gathered in from outside (ἔξωθέν τι εἰσφέροιτο).' To which the husband replies: 'And my ingathering would look ridiculous if there were not someone to keep what is gathered in.' Note that safeguarding and distribution (φυλακή and διανομή) are specifically the functions of Hestia Tamia.
119 Xenophon 'Oeconomicus' 7. 33.
120 Hesiod 'Theogony' 598-9: in this anti-feminine attack which identifies the domestic θάλαμος with the feminine γαστήρ, the two complementary activities - acquisition (man, Hermes) and gathering in (woman, Hestia) - are transformed into a conflict of two oppositions: labour (masculine) and expenditure (feminine). Further, for Hesiod, the woman is not content with 'squeezing her husband dry' through her appetite for food and the way she devours the fruits of his toil ('Works and Days' 705), she also squeezes him dry with her sexual appetite which the midsummer heat only serves to increase ('Works and Days' 586-7).
121 On the contrast between totalitarian and distributive economies, cf. G. Dumézil, 'Mitra-Varuna' (Paris, 1940), 155 ff.
122 A full study has yet to be made of the figure and functions of the Homeric ταμία, and her relations with Hestia. One or two points should be stressed: in Odysseus's palace Eurycleia is the attendant, the nurse, and the one who tends the fires. In his youth Laertes had obtained her, in exchange for

twenty bullocks, from her father, Ops (the Eye), son of Pisenor. The heralds in Ithaca were recruited from this family ('Odyssey' 2. 38). In the palace Laertes had honoured Eurycleia on an equal footing with his wife but had refrained from any intimate relations with her ('Odyssey' 1. 431). She had suckled Odysseus, whom she calls her child. It is on her suggestion that Autolycos, the boy's maternal grandfather, is asked to choose a name for the newborn child ('Odyssey' 9. 403). Her role is to watch unceasingly over all the goods of the house. Her vigilance, care, and foresight are much praised. She is an accomplished φύλαξ. These are the qualities that Xenophon insists should belong to the ταμία ('Oeconomicus' 9. 11). She should have no weaknesses, whether for food, drink, sleep, or men; she must have a perfect memory. But the true ταμία, the best φύλαξ of the house should be the wife herself (9. 14-15).

123 Artemidorus 2. 37; cf. Gernet, Sur le symbolisme, 38.

124 On the Cos ritual, cf. V. Prott, 'Fasti Sacri', 8; Farnell, 'Cults', 349 ff.; Nilsson, 'Griechische Feste', 17 ff.; Cook, 'Zeus', 1; 564; Gernet, Sur le symbolisme, 33.

125 Pausanias 8. 53, 9.

126 'Politics' 1322b ff.

127 Aristotle 'Constitution of Athens' 3. 5.

128 Ibid. 56. 2.

129 On the historical relations between the royal Mycenaean hearth and the city communal hearth, cf. Farnell, 'Cults', 350 ff.

130 'Odyssey' 21. 8 ff.

131 Note the expression, κειμήλια κεῖται ('Iliad' 6. 47; and 'Odyssey' 11. 9). In the first book of the 'Odyssey' Telemachus offers his guest a gift, saying: 'Thou mayest go to thy ship glad in spirit and bearing a gift costly and very beautiful, which shall be to thee a κειμήλιον, even such a gift as dear friends give to friends.' Again, in the twenty-third book of the 'Iliad' (618), Achilles gives Nestor a cup: 'Take this now, old sire, and let it be a κειμήλιον for thee, a memorial of Patroclus' burying'; cf. also Plato 'Laws' 913a.

132 The presence among the herds of Atreus of a lamb with a gold or purple fleece is the sign that Pelops's son is born to be king. Occasionally Hermes is presented as having himself engendered the golden lamb, the symbol of royal investiture (Euripides 'Orestes' 995).

In any case it is he who intervenes to reestablish the legitimate sovereignty when Thyestes, in his contest with Atreus, fraudulently presents the royal beast which belongs to his brother's flocks. The relations of Hermes with the ram, the symbol of royalty, are the same as those which associate him with the σκῆπτρον, the mobile symbol of sovereignty that the god of exchange transmits from Zeus to the house of the Atridai, in the same way as he brings them the golden ram. In Orgogozo's study, already mentioned, there are some interesting remarks on Hermes's place in the myths of the golden fleece and his associations with the function of royalty.

133 On the significance of the ἀγρός, cf. P. Chantraine, 'Études sur le vocabulaire grec' (Paris, 1956), 34-5.

134 Xenophon 'Oeconomicus' 7. 19.

135 On the significance of πρόβατον and the opposition κειμήλια-πρόβασις, cf. E. Benveniste, Noms d'animaux en Indo-européen, 'Bulletin de la société de Linguistique', 45 (1949), 91-100. The double aspect of wealth could also be expressed in a formula such as Hesiod's ('Works and Days' 308): 'Through work men grow rich in flocks and substance, πολύμηλοι τ'ἀφνειοί τε.' Αφνειός is in fact related to a different type of riches from herds. It is wealth that is stored in houses or cities. In the 'Odyssey' 1. 392, the term refers to a house; in the 'Iliad' 2. 570, to a town - Corinth. On Corinth ἀφνειός cf. Thucydides 1. 13, 5. See also 'Odyssey' 1. 165, where the contrast is emphasized between 'light-footed' men (ἐλαφρότεροι πόδας) and men weighed down with possessions of the kind of riches constituted by gold and precious cloths (ἀφνειότεροι).

136 Hermes ἀγροτήρ, cf. Euripides 'Electra' 463; Hermes νόμιος, cf. Aristophanes 'Thesmophorusiae' 977.

137 Cf. Simonides of Amorgos, frg. 18 Diehl^3: Hermes, patron of shepherds. We are reminded of the importance, in the religious plastic arts, of the figure of Hermes Criophorus bearing a ram on his shoulders.

138 Cf. Scholia to Aristophanes 'Ploutos' 395.

139 Hermes ἐπιμήλιος, cf. Pausanias 9. 34. 3; Hermes πολύμηλος, cf. 'Iliad' 14. 490.

140 Hesiod 'Theogony' 444 ff.

141 Cf. Aristotle 'Politics' 1258b.

142 In Athens the two feasts were separate. The naming of the child took place on the tenth day after birth (δεκάτη).

143 Scholia to Plato 'Theatetus' 160e; Hesychius s.v. Δρομιάμφιον ἦμαρ.

144 Scholia to Aristophanes 'Lysistrata' 758.
145 'Homeric Hymn to Demeter' 231-63.
146 'Argonautica' 4. 869 ff.
147 Pausanias, 2. 3, 11; on the κατακρυπτεια, cf. C. Picard, L'héraion de Perachora et les enfants de Médée, 'Revue archéologique' (1932), 218 ff.; Will, 'Korinthiaca: recherches sur l'histoire et la civilisation de Corinthe des origines aux guerres médiques' (Paris, 1955), 88 ff.
148 The word 'return' is used with intent. Born of the hearth as he is also born of the earth, man always returns, in death, to the world from which he issued.
149 Apollodorus 3. 6, 3.
150 Walking on the ground is quite a different matter from lying on the ground. The upright position does not carry the same risks as the prone position which delivers us into the hands of the chthonic powers. So the newborn child, even when exposed, was never put in direct contact with the soil. The tales of exposure always mention a casket, λάρναξ, a winnowing basket, λῖκνον, or a pot, χύτρα.
151 Pausanias 6. 20, 3-6.
152 The 'Souda', in the περιστίαρχος and καθάρσιον article, informs us of the significance which this ring traced round the hearth can assume in an entirely different context. The pigs, which in Athens were used to purify the assembly, were first driven round the hearth; cf. Farnell, 'Cults', 363.
153 The ἀπό and ἐκ of ἀπόθεσις, ἔκθεσις both indicate the gap, the distance. These two terms do not appear to have the exactly opposite meaning that has sometimes been attributed to them with regard to the procedure of exposure (cf. M. Delcourt, 'Stérilités mystérieuses et naissances maléfiques dans l'antiquité classique' (Liège, 1938), 37 ff.; and, contra, P. Roussel, 'Revue des études anciennes' (1943), 5-17). To be convinced that the ἔκθεσις is not depositing the child in a frequented area in the hope that it will survive - an exposure decided by the father for social reasons, the ἀπόθεσις being, on the contrary, its abandonment for truly religious requirements, in a deserted place to make sure it will die - one need only consult the text of Euripides's 'Ion' and the 'Pastorals' of Longus, in which the specific term ἔκθεσις is used. The newborn Ion has been left in a deserted cave (ἄντρον ἔρημον, 1494) where Hermes will come to fetch him; he has been exposed to wild animals (θηρσὶν ἐκτεθείς, 951), as the prey of birds (504-5), exposed to death (ὡς θανούμενον, 18 and 27),

dedicated to hades (εἰς Αιδαν ἐκβάλλη, 1496). As regards Longus's 'Pastorals' it could be said that the whole work is built round the opposition between the ἀγρός and the world of the city (πόλις and ἄστυ). Exposed ἐν ἀγρῷ (1. 2, 1; 4, 1; 5, 1; and 4. 21, 3), far from the town where their parents dwell, in areas frequented solely by shepherds searching for their lost animals, the two children, having grown up and found their family, always remain pure 'rustics' (4. 39, 1). On the opposition ἀγρός-ἄστυ cf. 4. 11, 1 and 2; 15, 4; 17, 1; 19, 1; 38, 3, 4.

154 'When a child is born, the question the father has to answer is whether it shall be brought up or exposed. Exposure of the child resulted from failure to celebrate the *amphidromia*, or, in other words, from the disavowal of paternity in consequence of this, Beauchet, 'Histoire du droit', 2: 87. Cf. also Glotz, 'Solidarité', 41; 'Études sociales et juridiques sur l'antiquité grecque' (Paris, 1906), 192.

155 Plato 'Theatetus' 150bc.

156 This could also be translated - and Glotz seems to have read the text in this way - 'of good constitution and legitimate birth'. Γόνιμος and ἀληθής could have both meanings. On γόνιμος, opposed to νόθος, bastard, in the sense of the legitimate son, cf. 'Palatine Anthology' 9. 277.

157 Plato 'Theatetus' 160c-1a.

158 Plutarch 'Life of Lycurgus' 16. 1-4.

159 Plutarch 'Quaest. Conviv.' 693F.

160 It is hardly necessary to recall that the ῥάβδος is an attribute of Hermes which confers on this god the patronage of certain 'expulsion' rituals, especially those that Eustathius ('Odyssey' 22. 481) calls πομπαῖα (cf. Hermes πομπαῖος, Aeschylus 'Eumenides' 91; Sophocles 'Ajax' 832): 'When the πομπαῖα are celebrated and the sullied are expelled to the cross-roads, a πομπός is held in the hands, which is said to be nothing else but the κηρύκειον, the wand of Hermes (σέβας Ἑρμοῦ): from this πομπός and the word δῖος comes the word τὸ διοπομπεῖν, sacred expulsion.

161 'Ἔξω βούλιμον, ἔσω δὲ πλοῦτον καὶ ὑγίειαν!'

162 'Anecd. Graec.', Bekker, 1. 278, 4; G. Verral and Jane Harrison, 'Mythology and Monuments of Ancient Athens' (London, 1890), 168.

163 On the relations between this type of sacrilege and 'devouring hunger', cf. the story of Erysichthon, Callimachus 'Hymn to Demeter' 30 ff.

164 Plutarch 'Conjug. Praecepta' 144a-b.

165 'Paroemiogr. Graec.', Gaisford, 25; βουζύγης; cf.

Farnell, 'Cults', 3; 315, note 17. On the domestic symbolism of fire and water, cf. Plutarch 'Roman Questions' 1: in Rome, the new bride has to 'touch fire and water'. It was doubtless a rite of integration in her husband's home as were the καταχύσματα in Greece.

166 Pausanias 7. 22, 1 ff.

167 Euripides frg. 781, 55 N^2. Porphyrius, in Eusebius 'Praeparatio Evangelica' 3. 11 also associates Hestia with the subterranean deities.

168 Deroy, Le culte du foyer, 32 and 43.

169 Plato 'Phaedrus' 247a.

170 'Republic' 616 ff.; cf. P.-M. Schuhl, Le joug du bien, les liens de la nécessité et la fonction d'Hestia, 'Mélanges Charles Picard' (Paris, 1949), 2: 965 ff.

171 Plato 'Cratylus' 401c-e.

6 Geometry and Spherical Astronomy in the First Greek Cosmology

The problem that I propose to tackle concerns not so much the history of scientific thought, as such, as the relation between certain fundamental scientific ideas - or a particular view of the world - and certain facts of social history. At the beginning of the sixth century BC, astronomical thought in Greece was not yet founded upon a continuous series of observations. It was not based upon any established scientific tradition. If I had to describe how some discovery was made in the nineteenth or twentieth century, I should have to refer, for the essential facts, to the development of science itself, to the state of theories and techniques, and, in short, to the internal dynamic of research in any particular scientific discipline. But in archaic Greece science was not yet established. The meagre astronomical data that the Ionians were about to put to use was not the result of their own discoveries. They had borrowed them from their near eastern neighbours, in particular from the Babylonians. We are thus faced with the following paradox: the Greeks were to lay the foundations for cosmology and astronomy; they were to give these disciplines the orientation that they were going to follow throughout the history of western thought. Right from the start they were to give them a direction which, to some extent, they still have today. And yet it was not they, but the Babylonians, who over the centuries had undertaken minute observations of the stars or who had recorded on tablets the ephemerides that indicated the various phases of the moon, and the rising and setting of the stars in the sky. The Greeks, then, put to use observations, techniques, and instruments that had been developed by others. Nevertheless they put together, in an entirely new system, the data that had been thus transmitted to them. They founded a new astronomy. How are we to explain this

innovation? Why did the Greeks organize the knowledge that they had borrowed from other peoples into a new and original framework? This is the problem that I should like to examine here.

Babylonian astronomy which was highly developed has, broadly speaking, three characteristics.

First, it was always an integral part of astral religion. The reason why the Babylonian astronomers observed the planet we call Venus so carefully was that this was a deity to them, known as Isthar, and they believed that men's good or evil fortune depended upon its positions. To their eyes the heavenly world was a collection of divine powers. By observing the heavens men could understand the intentions of the gods.

Second, those whose role it was to observe the stars belonged to the category of scribes. The function of the scribes in Babylonian society was to write down every detail of economic life and to preserve these records in the form of archives. One could say that they drew up accounts of what was happening in the heavens just as they did of what was happening in human society. In both cases the scribes acted in the service of the figure that dominated the whole of Babylonian society and whose function was religious as much as it was political, that is to say, the king. It was, in fact, essential that the king should know what was happening in the heavens. Both his personal destiny and the fate of the kingdom depended upon it. As the intermediary between the heavenly and earthly worlds, he had to know at exactly what moment he should perform the religious rites that were his responsibility. Astronomy was therefore connected with the religious calendar which it was the privilege of the scribes working in the service of the king to regulate.

Third, this astronomy was strictly arithmetical. The Babylonians, who had an accurate knowledge of certain celestial phenomena and who could forecast an eclipse on an empirical basis, had no geometrical model to represent the movements of the stars in the sky. All they did was note down the positions of the stars, one after the other, on their tablets, and keep an accurate record of them. In this way they produced arithmetical formulae which made it possible for them to predict whether or not a certain star would appear at a particular moment in the year. But they did not conceive of astronomy in spatial terms.

On all three points Greek astronomy was, from the start, radically different. In the first place it seems to have been quite unconnected with any astral religion. The Ionian 'physicists' - Thales, Anaximander, and Anaximines - propose, in their cosmological writings, to

present a *theoria*, that is to say, a view or general conception which can provide an explanation for the world without any religious preoccupations, without the least reference to deities or religious practices. On the contrary, the 'physicists' are conscious of holding, on many points, a view opposite to traditional religious beliefs.

We have, then, a type of knowledge which from the very beginning insisted upon intelligibility. In this respect the Ionians show an extraordinary audacity. Their ideal is that every man should be able to understand how the world originally came into being - with the help of a few simple examples which were often borrowed from everyday life and from the most familiar of practices. For example, they would explain the formation of the world with the image of a sieve being shaken, or with that of muddy water being swirled round a bowl with the heavier particles remaining in the middle while the lighter ones are dispersed outwards toward the circumference. They attempted to give a purely positivist and rational explanation for the way the universe is organized.

In this sense, the view of the world presented by the first Ionian 'physicists' is radically different from that which existed before, for example, in Homer or in Hesiod. Let us compare the ancient concept, the archaic picture of the world, with the schema that we find already clearly developed in Anaximander. It is noticeable that there is a change in the very way that space is represented. To explain what I mean by this, I will take an example which is more familiar because more recent: for centuries, throughout the Middle Ages, as in antiquity, men lived in the belief that the world was motionless and at rest in the centre of the universe. It is well known what an intellectual revolution was brought about by the abandonment of this view in favour of a heliocentric theory: the world was no longer motionless, it was no longer at the centre of the cosmos, so the world had not been created for a man made in the image of God. So this new conception of space brought about a very real transformation in the idea that man had of himself and of his relations with the universe.

The intellectual revolution with which we are concerned is no less radical. According to Homer and Hesiod's conception, the world is a more or less flat disk surrounded by a circular river, ocean, which has no beginning and no end as it flows into itself. (2) This is a theme that is already to be found among the Babylonians in the great fluvial plains where the cultivated land had been painfully reclaimed from the waters by means of a system of dikes and drainage ditches. Thus the genesis of the

world and its organization were conceived as a drying out of the earth which gradually emerged from the waters all about it. The bronze sky rises above the earth, like an inverted basin resting on the outside rim of the ocean. It is described as bronze in order to express its unchangeable solidity. The sky is the realm of the gods and is indestructible. What is there beneath the earth? For a Greek of archaic times, the earth was first and foremost what one could safely walk upon, a 'solid and sure base' that ran no risk of collapsing. So they imagined roots beneath it, safeguarding its stability. But where did the roots go? Nobody really knew. Xenophanes was later to say that they grew downward forever, without limit. (3) But anyway where they went to was not important; what mattered was that it was sure that the earth would not move. As an alternative to the roots growing downward forever, one could believe, as Hesiod did, in a huge jar that ended in a narrow mouth from which grew the roots of the world. (4) Within the jar whirlwinds blew in all directions: this was the world of disorder, of space not yet organized. The cosmogonies relate, in fact, how, once Zeus had become the king of the universe, he closed the neck of the jar forever. He sealed off this opening forever so that the subterranean world of disorder - the world where every spatial dimension is muddled in an inextricable chaos, where up is confused with down and right with left - should never more emerge into the light of day. Why a jar, in this mythical view of the cosmos? The reason is that the ancestors of the Greeks used to bury in the earthen floor of their storerooms huge jars containing the fruits of the earth and also the corpses of the household's dead. The subterranean world that the jar symbolizes is the world from which the plants grow up, where the seeds germinate, and where the dead dwell.

The main characteristic of the mythical view I have just described is that it represents a universe on different levels. The space above is completely different from the space in the middle and the space below. The first is for Zeus and the immortal gods, the second, for men, and the third, for the dead and the subterranean gods. It is a world constructed on different levels and one cannot pass from one level to another except under special conditions. On this earth, similarly, the directions in space have different properties: right is auspicious while left is bad, and east and west each have a different religious significance.

Let us compare this ancient mythical view with the one that we find in Anaximander. (5) For Anaximander the

earth is like a truncated column in the middle of the cosmos. And he accounts for the fact that the earth is able to remain immobile in the following way: the reason that it never falls is that, being at an equal distance from all the points on the celestial circumference, it has no reason to go right rather than left, nor up rather than down. Here, then, we have already a spherical conception of the universe. We see the introduction of a new kind of space, no longer the space of myth, with its roots or its jar, but a geometrical space. This is space which is essentially defined by relationships of distance and position, space where it is possible to explain the stability of the earth by the geometrical definition of the centre in relation to the circumference. Another text ascribed to Anaximander by the doxographers shows clearly that he is conscious of the reversible character of all spatial relationships. We are no longer in mythical space where up and down and right and left have opposing religious meanings, but in a homogeneous space constituted by symmetrical and reversible relationships. In this text Anaximander accepts the existence of the 'antipodes'. (6) And to judge from certain documents from the Hippocratic corpus, we are entitled to believe that, for Anaximander, what appears to be 'up' to us is 'down' to the inhabitants of the antipodes, while what is 'right' to us is 'left' to them. (7) In other words absolute value is no longer attached to the directions of space. The structure of space, at the centre of which the earth is located, is truly mathematical.

How are we to explain this development in astronomical thought, this intellectual revolution? One of the chief specialists in ancient astronomy has written: 'Thus Babylonian astronomy is purely arithmetical, whilst right from the very beginning Greek cosmology is geometrical.... The only explanation that I can think of is that the Greeks were born geometers.' The explanation seems inadequate. I should like to propose another one. Between the period of Hesiod and that of Anaximander a whole series of social and economic transformations took place. Their importance has often, quite rightly, been emphasized. For my part, I should like to stress the point that I consider to be essential for a precise understanding of the change that we need to explain. In my view it is a political matter, that is to say, it concerns the birth of the Greek *polis*. What we have to explain is a certain astronomical conception of the universe; we are therefore dealing with thought that is the result of conscious, considered reflection. This thought is expressed in a precise vocabulary and organized around certain fundamental concepts.

It is presented as a conceptual system that is both coherent and structured. This vocabulary, these basic concepts, and this conceptual system are quite new in comparison with what had gone before. In order to understand how they came into being, we must try to find out in what form the transformations that took place in social life were themselves reflected on a conceptual level. In other words we must try to find out what sector of social life acted as a link, playing the role of mediator between the conceptual constructions of the new thought and new institutions. To discover this link between the social practice of the Greeks and their new intellectual universe, we must find out how, confronted as he was with the crisis provoked by the extension of sea trade and the beginnings of a monetary economy, the Greek of the seventh century BC came to rethink his social life in an attempt to remodel it in keeping with certain egalitarian aspirations. We must discover how he turned it into a subject for reflection, how he conceptualized it, and thus we shall be drawing comparisons between things that can indeed be compared since they are homogeneous. We will put two mental systems side-by-side to underline their correspondences and the similarity in their structure. Each system has its own vocabulary, its own fundamental concepts and intellectual framework. One of these systems was developed in the practice of social life while the other was applied to the understanding of nature.

Now, from this point of view, Greece represents a remarkable phenomenon, indeed an extraordinary one. It appears that for the very first time in human history social life became the object of conscious and deliberate research and reflection. The institutions of the city imply that there was not only a 'political' sphere of action but also a 'political' thought/theory. The expression used to refer to the political sphere, τὰ κοινά, means 'that which is common to all', in other words, public affairs. In effect, life for the Greeks took place on two clearly separated levels. One was the private domain, the family, domestic life (what the Greeks called οἰκονομία), while the other was the public domain which included all decisions affecting the common interest, all that turned the collection of citizens into a united, coherent group, a *polis* in the strict sense. Within the framework of the institutions of the city (the city that makes its appearance during precisely the period between Hesiod and Anaximander), nothing that belongs to the public domain can any longer be settled by a single individual, not even by the king. All things held in 'common' must be the subject of free debate between those

who compose the political body. They must be discussed publicly in the open, in the *agora*, and the discussion must take the form of speeches that develop arguments. Thus the establishment of the *polis* involves a process of secularization and rationalization of social life. It is no longer the priest-king who, by following a religious calendar, does everything that needs to be done in the group for its members. Now it is the men themselves who take their destiny into their own hands and who make the decisions after due discussion. (When I say 'men' I am, of course, referring only to the citizens for, as is well known, this political system presupposed that there were other men who were devoted to the essentials of productive work.) But so far as the citizens were concerned the affairs of the city could be decided only following public debate in which each man was free to intervene in order to develop his own arguments. The *logos*, which was the instrument for these public debates, thus takes on a double sense. On the one hand it is the word, the speech pronounced by an orator at the assembly. But it is also reason, the faculty of argumentation which defines man as being not just an animal, but a 'political animal', a reasonable being.

This new importance attached to the word, which from this time becomes the instrument *par excellence* of political life, is matched by a change in the social significance of writing. In the near-eastern kingdoms writing was the privilege and specialty of the scribes. It allowed the royal administration to keep account of and so control the economic and social life of the state. It was used to set up archives which were always kept more or less secret inside the palace. Writing of this kind existed in the Mycenaean world between 1450 and 1200 BC. But it disappeared when the Mycenaean civilization was ruined, and during the period in which we are interested, that is, the moment of the birth of the city, it was replaced with a form of writing whose purpose was the exact opposite. Instead of being the privilege of one caste, the secret of a class of scribes working for the king's palace, writing became the 'common property' of all the citizens, an instrument for making things public. It made it possible to introduce into the public domain everything that goes beyond the realm of private life, and is of interest to the community. Laws had to be written down. In this way they became truly the property of everyone. The consequences of this transformation of the social status of writing were to have a fundamental effect upon intellectual history. Writing made it possible to make public and reveal to everybody the things that had

always remained more or less secret in the eastern civilizations, and the result of this was that the rules of the political game - that is, free debate, public discussion, and open argument - also became the rules of the intellectual game. As with political affairs, the knowledge, discoveries, and theories concerning nature of each philosopher were to be made public; they were to become common property: κοινά. We can refer here to a letter, apocryphal of course, but none the less indicative of a certain collective psychology. It is the letter which Diogenes Laertius attributes to Thales writing to Pherecydes, who was a contemporary of Anaximander, and, according to some, the author of the first work to be published in prose. (8) Thales rejoices in Pherecydes's wise decision not to keep his knowledge to himself but to make it available, ἐν κοινῷ, to the community. This implies that he made it the subject of public discussion. To put it another way: when a philosopher such as Pherecydes wrote a book, what was he doing? He was transforming a private knowledge into the subject for a public debate similar to that which was becoming established for political matters. And indeed Anaximander was to discuss the ideas of Thales, and Anaximenes those of Anaximander, and it was through these discussions and arguments that philosophy itself was to become established.

In my opinion the reason why it was possible for Greek cosmology to free itself from religion and for knowledge concerning nature to become secularized was that at the same time social life itself was rationalized, and the administration of the city became, in the main, a secular activity. But we must pursue the matter further. Quite apart from the rational and positivist form of astronomy, we must consider its content and seek out its origins. How did the Greeks come to form their new view of the world? As we have already mentioned, the main feature of Anaximander's universe was its circular or spherical character. The extent to which the circle had for the Greeks a special value is well known. They considered it to be the most beautiful and perfect shape. The task of astronomy was to explain appearances, or, to use the traditional formula, 'to save the phenomena', by constructing geometrical schemata where the movements of all the heavenly bodies followed circular courses. Now it must be recognized that politics also appear to have been attached to a representation of space that deliberately emphasized the circle and its centre, giving them a very definite significance. In this respect it is fair to say that the emergence of the city-state was in the first place characterized by a transformation affecting the space of the

city, in other words, the way that towns were planned. It is in the Greek world, probably first in the colonies, that a new plan of the city first appears in which all the urban buildings are concentrated around an open space known as the *agora*. The Phoenicians were traders who travelled all over the Mediterranean several centuries before the Greeks. The Babylonians were also traders who developed much more elaborate commercial and banking techniques than did the Greeks. However, the *agora* is found in neither civilization. The existence of an *agora* depends upon a system of social life that implies public debate on all communal affairs. This is why the open public space appears only in the Ionian and Greek cities. The existence of an *agora* marks the emergence of the political institutions of the city-state.

What are the historical origins of the *agora*? Naturally, it does have a past. It is connected with certain characteristic customs of the Indo-European Greeks among whom the warrior class was separate from the farmers and herdsmen. In Homer we find the expression λαὸν ἀγείρειν, meaning 'to assemble the army'. The warriors assembled in military formation: they formed a circle. This circle formed a definite space used for public debate, involving what the Greeks called ἰσηγορία, the right to free speech. Thus, at the beginning of Book 2 of the 'Odyssey', Telemachus convenes the *agora* in this way, which is to say that he assembles the military aristocracy of Ithaca. Once the circle is formed, Telemachus enters it and stands ἐν μέσῳ, at the centre. He takes the sceptre in his hand and speaks freely. When he has finished he steps out of the circle and another takes his place and replies to his speech. This assembly of 'equals' constituted by the meeting of the warriors creates a circular space with a centre in which each man can freely say whatever suits him. Following a series of economic and social transformations, this military assembly became the *agora* of the city where all the citizens (first a minority of aristocrats and later the whole of the *demos*) were able to argue out and decide in common upon the affairs that concerned them collectively. This, then, is a space made for discussion, a public space as opposed to the private houses, a political space within which one can discuss and argue freely. It is significant that the expression ἐν κοινῷ whose political meaning, 'to make public, place in common', we have already mentioned, has a synonym with a clearly spatial meaning. Instead of saying that a question is put ἐν κοινῷ, that it is debated publicly, it can be said that it is placed ἐν μέσῳ, put in the centre, set

down in the middle. The human group thus sees itself in the following way: alongside the private, individual houses there is a centre where public matters are debated, and this centre represents all that is 'common', the collectivity as such. In this centre every man is the equal of his fellow, no man is subject to another. In the free debate that takes place in the centre of the *agora* all the citizens are defined as ἴσοι, equals, ὅμοιοι, peers. This is the birth of a society where one man's relationship with another is conceived in terms of identity, symmetry, reversibility. Human society no longer forms, as it did within mythical space, a world on different levels with the king at the top and beneath him a whole social hierarchy where status is defined in terms of domination and submission. Now the universe of the city-state is one of egalitarian and reversible relationships according to which all the citizens are defined in relation to one another as being politically identical. One can say that, in that they have access to this circular space centred on the *agora*, the citizens enter a political system governed by equilibrium, symmetry, and reciprocity.

In order to understand the relations among the city's political institutions, the new urban framework, and the appearance of a new view of the world, we must pay some attention to a man such as Hippodamus of Miletus. He lived a century later than Anaximander but belongs to the same stream of thought. What form do his activities take? It was he who undertook to rebuild Miletus after the town had been destroyed. He reconstructed it according to an overall plan which reveals a desire to rationalize urban space. Instead of a city of the archaic type, similar to our medieval cities, with a maze of streets tumbling untidily down the slopes of a hill, he chose a fine open space, made a grid of straight streets intersecting at right angles, and created a town resembling a chequerboard, entirely centred round the open space of the *agora*. We call Hippodamus an architect, the first great town-planner of the Greek world. But he was primarily a political theorist who conceived the organization of urban space to be one element, among others, in the rationalization of political relations. He was also an astronomer who was interested in 'meteorology', which is to say that he made a study of the stars. Here we have a living example that illustrates the connections between one man's astronomical preoccupations concerning the celestial sphere, his search for the best political institutions, and his attempt to build a town according to a rational, geometrical model. We find another example in Aristophanes's comedies. In 'The Birds' he introduces

the astronomer, Meton, for the purpose of ridiculing him. Meton, we know, had been successful in computing the relation between the lunar months and the solar year. Aristophanes introduces him striding round the town declaring,

> I shall make my measurements with a set-square which I shall use so that the circle shall be squared and the *agora* shall be found at the middle; perfectly straight roads shall lead to it, converging towards the very centre, and as from a star which is itself round, there will be straight rays leading off in every direction.

This announcement evokes an admiring chorus from the onlookers. 'This man is a very Thales!' Meton tries to resolve the problem of squaring the circle. He claims he can design a plan of a circular town whose streets intersect at right angles while at the same time converging towards the centre. The streets must intersect at right angles because this is simple and rational; but all the streets must also converge towards the centre because no city should be without its public space at the centre and because every human group constitutes a kind of circle. We should also note the reference to astronomical considerations - the rays of the sun; these are very understandable in an architect who is also an astronomer.

These two examples give us reason to believe that there may have been very close ties between the reorganization of social space within the framework of the city and the reorganization of physical space in the new cosmological concepts.

Let us consider again the texts of Anaximander in order to understand his vocabulary, his fundamental concepts, and his general organization more fully. According to him, the earth remains immobile in the centre of the celestial circumference because of its ὁμοιότης (or, as we would say, its equal distance from all points on the circumference); it is also because of its ἰσορροπία, its equilibrium or symmetry. He adds that, since the earth is thus situated at the centre, μέση, ἐπὶ τοῦ μέσου, περὶ τὸ τοῦ κόσμου μέσον, the earth is not ὑπὸ μηδενὸς κρατουμένη, nothing dominates it, nothing holds power over it. What is this idea of 'domination' doing in an astronomical context - domination being an idea from politics rather than from physics? (9) The reason for its introduction is that, in the mythical view of the universe, the earth, in order to remain stable, had to be supported by something other than itself on which it consequently depended. The fact that the earth needed a place upon which to rest implied that it was not entirely independent, that it was in the power of something stronger than itself. In contrast, in Anaximander, the central posi-

tion of the earth is an indication of its 'autonomy'. If we now turn to a text from the historian Herodotus - a political text this time - we find exactly the same terminology, the same fundamental concepts, and the same conceptual nexus of ideas involving 'centre', 'similarity', and 'nondomination'. (10) Herodotus tells us that when Polycrates the tyrant of Samos died, his successor designate, Maiandros, who had been won over by the ideal of democracy, refused to assume power. He therefore called together the assembly. Into this privileged circle, this centre of the human community, he assembled all the citizens of the town to announce to them that he did not approve of Polycrates reigning as a tyrant over men who were his ὅμοιοι, his peers; he had therefore decided to place the κράτος, the power, ἐν μέσῳ, at the centre (in other words, to return that which had been usurped by one individual to the community composed of all the citizens) and to proclaim ἰσονομία. This remarkable parallelism in terminology, concepts, and structure of thought seems indeed to confirm our hypothesis that the new spherical view of the world was made possible by the elaboration of a new view of human society within the framework of the institutions of the *polis*.

Let us pursue our analysis a little further and try to submit our thesis to a sort of experimental verification, in so far as this is possible within the limits of historical research. Let us take, at one end of the chain, the significance and values of the centre in the mythical view of the universe. Then, at the other end, let us consider the geometrical conception of the centre in Anaximander's cosmology. Let us examine how, on this particular point, the transformation came about.

There are two terms meaning 'centre' in Greek religion. One is *omphalos* meaning navel, and the other is *hestia*, the hearth. Why is *hestia* a centre? The house forms a clearly defined and enclosed space different from that of other houses. It rightly belongs to a family group, conferring upon this group a particular religious quality. Thus, whenever a stranger enters the house, he must first be led to the hearth. Once he has touched the hearth he is integrated within the space enclosed by the house in which he is a guest. The hearth, established at the centre of the domestic space is, in Greece, fixed, implanted in the earth. It represents, as it were, the *omphalos* of the house; it is the navel by which the human dwelling is rooted into the depths of the earth. But at the same time it is, in one sense, a point of contact between the sky and the surface of the earth upon which the mortals live. Around the circular hearth, in the

large room which the Greeks called the *megaron*, four small columns supported an opening in the roof, a skylight through which the smoke could escape. When the fire in the hearth was lit, the rising flames established a communication between the earthly house and the world of the gods. Thus the 'centre' of the hearth is the point on the ground where, for the family, there exists a contact between the three cosmic levels of the universe. It opens a way of communication between this world and the others. Such is the mythical view of the centre represented by *hestia*. And each domestic centre, each hearth of each house, is different from every other. There is a kind of incompatibility between one house and the next. Different hearths cannot be 'mixed'.

Now, what happens during the age of the city? When the *agora* is introduced, this space, which is no longer a domestic one, which on the contrary forms a space common to all, a public not private space, becomes the true centre in the eyes of the group. In order to mark out its role as a centre, a hearth is set up which no longer belongs to an individual family but which stands for the political community as a whole. This is the hearth of the city, the common hearth, the Ἑστία κοινή. This common *hestia* is not so much a religious symbol as a political one. Henceforth this is the centre around which all men assemble to do business and to discuss their affairs in a rational way. As a political symbol *hestia* must represent every hearth without being identified with any one in particular. It could be said that all the hearths of the various different houses are, in a sense, at the same distance from the public hearth which represents them all equally without being identified with any one rather than with any other. Thus the function of *hestia* is no longer to differentiate between the different houses nor to establish a contact between different cosmic levels. Now it is the expression of the symmetry in the relationships that unite the equal citizens within the city. As a political symbol *hestia* defines the centre of a space in which relationships are reversible. Thus the centre, in its political sense, was able to act as an intermediary between the ancient mythical view of the centre and the new, rational idea of the centre equidistant from all parts of the circumference in a mathematical space in which relationships were reciprocal.

Is this really the way things happened? One observation seems to provide what we have called the experimental verification. The name given by philosophers to the earth, immobile and fixed in the centre of the cosmos, is in fact '*hestia*'. When the astronomers and authors of

cosmologies wished to indicate the central position occupied in the celestial sphere by the earth, they said that the earth constituted the hearth of the universe. In this way they were projecting on the world of nature the very same view of human society that had resulted from the foundation of the *polis*. Through the transformations which took place in the symbolic meanings of *hestia* we can thus see how the change from a mythical view to a political and geometrical concept came about. We can understand how the advent of the city, public discussion, and the social 'model' of a human community made up of 'equals' made it possible for rational thought to develop and for a new conception of space to be formed, a conception of space which found expression in a number of different contexts - in political life, in the organization of urban space, and in cosmology and astronomy.

NOTES

1 'La Pensée', 109 (1963), 82-92. The text of a lecture given at l'Université Nouvelle, Paris, in a series devoted to an outline of the history of scientific thought.
2 Cf. G.S. Kirk and J.E. Raven, 'The Presocratic Philosophers' (Cambridge, 1960), 10-19: The Naive View of the World.
3 Xenophanes, in H. Diels and W. Kranz, 'Die Fragmente der Vorsokratiker' (7th edn, Berlin, 1956), 1: 135, 16-17.
4 Hesiod 'Theogony' 726 ff.
5 Cf. C.H. Kahn, 'Anaximander and the Origins of Greek Cosmology' (New York, 1960).
6 Ibid., 56.
7 Ibid., 84-5.
8 Diogenes Laertius 1. 1. 15.
9 The fact that the expression κρατουμένη does not mean only 'being supported', but also has a direct connection with the idea of 'power' is proved by the use of the verb κρατεῖν in cosmological, medical, and technical writings. Cf. Kahn, 'Anaximander', 80 and 130.
10 Herodotus 3. 142.

7 Geometrical Structure and Political Ideas in the Cosmology of Anaximander

Following G. Vlastos and C.H. Kahn, we have pursued elsewhere the study of Anaximander's cosmology, focusing upon its relation to political thought. We have emphasized the connection between the geometrical view of the universe which appears, for the first time, in the work of this philosopher, and the organization of space in the city-state where the common hearth set up on the *agora* forms, as it were, the centre point. (2) The distinguishing feature of space in the city-state is precisely that it appears to be organized around a central point. This centre is exceptionally important on account of the political significance that it holds. First, as the centre, it is contrasted with all the rest of the civic space; second, it imposes an order upon this space, for each individual position is defined by it and in relation to it. As a legal inscription at Tenos puts it, in the centre is the collectivity (μέσῳ πάντες); on the outside are the individuals (χωρὶς ἕκαστος). (3) The expressions ἐς μέσον and ἐν μέσῳ are exactly synonymous with ἐς κοινόν, ἐν κοινῷ. Thus the *meson* or middle defines the common or public domain (the ξυνόν), as opposed to what is private, individual. However different in terms of their dwelling-place, family, and wealth the citizens, or rather the households that compose a city, may be, they form a political κοινωνία or ξυνωνίη by virtue of their common participation in this single centre. Furthermore, despite their differences or even their oppositions they are defined in their relation to this centre as ἴσοι, equals, ὅμοιοι, peers. In the eastern kingdoms political space took the form of a pyramid dominated by a king, with a hierarchy of powers, prerogatives, and functions stretching down from top to bottom. In the city-state, in contrast, political space is symmetrically organized around a central point and appears as a geometrical schema of

reversible relationships governed by equilibrium and reciprocity between equals. Ἐς μέσον τιθέναι τὴν ἀρχήν or τὸ κράτος, to place the power at the centre, is to take away the privilege of supremacy from every private individual so that no one man dominates any other. Once fixed at the centre, the *cratos* cannot be taken over and becomes the common property of all the members of the group. Each man commands and obeys himself and everyone else at the same time. For the citizens of a city to place the *cratos* at the centre is one and the same thing as to proclaim themselves to be free from all domination.

Herodotus tells us that toward 510 BC, in Samos, Maiandrios, εἶχε τὸ κράτος, held the power, having received it from Polycrates. However, when Polycrates died Maiandrios raised an altar to Zeus Eleutherios, Zeus the Liberator, and called all the citizens to an assembly to tell them:

> As you know, it is I who have been entrusted with σκῆπτρον καὶ δύναμις πᾶσα Πολυκράτεος, the sceptre and all the power of Polycrates.... But Polycrates did not have my approval when he ruled as master over men who were his peers, δεσπόζων ἀνδρῶν ὁμοίων ἑωυτῷ.... I therefore place the power in the middle and proclaim *isonomia* for you, ἐς μέσον τὴν ἀρχὴν τιθεὶς ἰσονομίην ὑμῖν προαγορεύω. (4)

Here, then, we recognize the close connections in the political thought of the Greeks between the concept of the centre, μέσον, similarity or equality, ὁμοιότης, ἰσότης, and freedom from domination, οὐ κρατούμενος, αὐτοκρατής. This same connection between the same concepts, within the framework of a similar overall view of space symmetrically organized around a central point can, we believe, also be found in the doxographers' testimonies concerning Anaximander's view of a spherical cosmos with the earth occupying the centre.

Kahn has grouped and discussed these testimonies in what seems to us a most pertinent fashion. He has also demonstrated how the geometrical character of Anaximander's cosmology is radically new not only compared with the archaic representations of the universe to be found in Homer and Hesiod but also compared with the theories of Thales and Anaximines. According to Anaximander, the sole reason for the earth remaining immobile is the position it occupies in the cosmos. Since it is situated at the centre of the universe, at an equal distance from all the points which form the extremities of the world, there is no reason for it to move in one direction rather than another. The stability of the earth is explained purely in terms of the geometrical properties of space. The

earth no longer has any need of roots as it does in Hesiod. Nor does it have to rest upon any other element such as Thales's water or Anaximines's air. It remains in its position without any intervention from outside because there are no longer any absolute directions in this universe, every part of which is organized symmetrically in relation to the centre. Up and down, right and left do not exist in themselves but only in relation to the centre. And, from the point of view of the centre, up and down are not only symmetrical but also completely reversible. (5) There is no difference between them any more than between right and left. Thus all points on the celestial sphere are exactly the same, *homoioi*, in relation to the centre. Aristotle makes it clear that it is this ὁμοιότης, linked with the central location of the earth (τὸ ἐπὶ τοῦ μέσου ἱδρυμένον καὶ ὁμοίως τὰ ἔσχατα ἔχον), which, according to Anaximander, causes the earth to remain necessarily immobile, ἐξ ἀνάγκης μένειν. (6) In Book 1 of his 'Refutation of Heresies', Hippolytus sums up Anaximander's doctrine, in the text in which he deals with it, in these terms: Τὴν δὲ γῆν εἶναι μετέωρον ὑπὸ μηδενὸς κρατουμένην, μένουσαν δὲ διὰ τὴν ὁμοίαν πάντων ἀπόστασιν. (7) Kahn translates this passage, correctly we believe, as follows: 'The earth is aloft, not dominated by anything; it remains in place because of the similar distance from all points (of the celestial circumference).' (8)

Not only are the terms 'centrality', 'similarity', 'absence of domination', to be found in Anaximander's cosmology, but they are clearly linked together there in the same way as they were in political thought. The geometrical character of the new conception of the world thus seems to have been modelled on the view that the city-state had of itself. It was expressed in a political vocabulary which conveyed what the Greeks believed to be original in their civic institutions when compared with states that were subject to the authority of a king.

There is one difficulty, however. Is it correct to attribute the expression ὑπὸ μηδενὸς κρατουμένην to Anaximander? Is not Hippolytus responsible for it? Kahn rejected this objection. In his opinion the authenticity of the phrase was guaranteed by the exceptional importance of the ideas of *cratos* and *cratein* in the earliest cosmological thought. (9) This answer has, to be sure, been judged inadequate, for the objection has again been raised, formulated, this time, in more rigorous terms. (10) It was pointed out that by the beginning of the Christian period the normal meaning of the verb κρατεῖν was 'to retain', 'to uphold'. Thus, as used by

Hippolytus, ὑπὸ μηδενὸς κρατουμένην would, quite unexceptionally, specify the meaning of μετέωρον, without implying the slightest reference to the idea of κράτος in the sense of power of domination. The argument seems strong enough to warrant a fresh examination of the whole case. Before embarking upon this, however, a few preliminary remarks may prove useful.

The fundamental meaning of κρατεῖν is 'to be strong, to dominate, to overcome'. However, even before the Hellenistic period it had acquired various nuances in meaning in different contexts. In legal terminology, in particular, it meant both 'to be master of, to have rights over', and 'to keep in one's grasp, to retain' (cf. Demosthenes 'Against Lacritos' 24). In medical terminology it often has the sense of 'to assimilate, to digest' as does ἐπικρατεῖν. Thus, in 'Ancient Medicine' 14, that which is harmful is defined as being that which human nature cannot κρατέειν, assimilate. In chapter 3 we find the remark that the reason why food was boiled and roasted by the first men was so that they could ἐπικρατέειν, digest, it. In chapter 4 consideration is given to what a man should eat and drink in order to be able to assimilate it most easily: ὅ τι ἐσθίων τε καὶ πίνων ἐπικρατήσει τε αὐτοῦ μάλιστα. But in law as in medicine, whether the sense is 'to retain' or 'to assimilate', the reference to *cratos*, the power of domination, linked with an idea of strength (ἰσχύς) and power (δύναμις), is always perfectly explicit. In legal terminology κρατεῖν means to have the whip hand over somebody or something and thus to have legal rights over, or simply to dominate in practice, the person or thing. In medical terminology κρατεῖν has the sense of assimilating or digesting because the various qualities from which the elements are composed (dry, wet, hot, cold, sweet, bitter) are conceived as δυνάμεις, powers of varying strengths. In order to assimilate them the body must be more powerful, stronger than these qualities, in other words, it must dominate them, in the true sense of the term. We read in 'Ancient Medicine' that what the doctors considered to be harmful was 'the strength of each quality, that which, being too powerful for human nature, could not be assimilated by it (τὸ ἰσχυρὸν ἑκάστου καὶ τὸ κρέσσον τῆς φύσιος τῆς ἀνθρωπείης, οὐ μὴ ἠδύνατο κρατέειν).' (11) Thus, to help their digestion one gives to the sick or weak food that has been made weaker (ἀσθενέστεροι) by reducing its strength (τὸ ἰσχυρόν) by cooking it or watering it down. (12) The relation of the doctor to diseases is like that of the body to the elements: the skilled practitioner is effective against the evil in so far as he possesses some instrument or means of greater power and strength:

> In cases where we have the mastery, ἐπικρατεῖν, through means either natural or artificial, we can act as craftsmen, otherwise it is not possible. So when a man suffers from an illness which is too strong for the instruments of medicine one cannot hope for it to be dominated by medicine (ὅταν οὖν τι πάθῃ ἄνθρωπος κακὸν ὃ κρέσσον ἐστὶ τῶν ἐν ἰητρικῇ ὀργάνων, οὐδὲ προδοκᾶσθαι τοῦτό που δεῖ ὑπὸ ἰητρικῆς κραθῆναι ἄν). (13)

What is true for the art of medicine also goes for other human techniques. It is always a question of opposing force against force, power against power, in order to conquer or dominate. Similarly, Aristotle describes both the skills of the sophists and the tools of the engineers as weapons making it possible for the smaller and weaker to dominate, κρατεῖν, what is larger and stronger. (14) The dynamic sense of *cratos*, meaning a superior force, is certainly present even in the technological terminology of Philo of Byzantium, for example, where the verb κρατεῖν has acquired the meaning of exerting pressure on a tool in order to move it, and where κρατεῖσθαι, in the case of one part of an instrument, has the meaning of being activated by another part, or 'driven' by it, as we say in English.

This dynamic conception of a universe where physical phenomena are conceived as powers and their mutual relationships as confrontations of strength (15) no doubt explains why, even as early as in Homer, the expression κραταίπεδον ('Odyssey' 23. 46) refers to ground which is solid, resistant, that is to say, capable of 'upholding' things and beings without them sinking into it. (16) A falling body is a force in action. Thus, Homer tells us, each time that Sisyphus, rolling his stone to the top of the hill, was on the point of reaching the summit, 'τότ' ἀποστέψασκε κραταιίς, at that moment a force made it fall back again' ('Odyssey' 11. 597). To arrest the fall and support the weight, an equal or superior force is needed. This is precisely the power of support Gaia possesses. She is the nourisher, it is true, but she is also the goddess, ἠΰθέμεθλος, with solid foundations ('Homeric Hymn to the Earth' 1), the cosmic power who is the πάντων ἕδος ἀσφαλὲς αἰεί, the unshakable foundation for all (the gods). As such she is opposed, at the beginning of the world, to Χάος, the yawning gap, the bottomless void without direction, the space in which falling has no end, where there is never anything to stop the flight of a falling body. (17)

What is the source of Gaia's ability to uphold things, her power of stability? Why is she the support upon which men may walk without fear, even when the ground

sometimes shakes beneath their steps? Myth provides many answers to this, though the question is never explicitly formulated. We cannot examine them in this study since they involve the entire mythical view of the progressive organization of the world. Let us merely recall a few points. Gaia is stability, just as she is the universal mother who gave birth to all things, starting with the heavens, the waves, and the mountains, right down to the gods and men. When, following immediately upon Chaos, Gaia makes her appearance, γένετο (Hesiod 'Theogony' 114), a kind of basis, a foundation, is established in the unorganized world. Space acquires the beginnings of some orientation. However, Gaia is not the first to appear; Chaos preceded her as a force quite foreign to her, the only power with which Gaia will never in any way be united. This means that even after the sequence of generations of hostilities between the gods have been brought to their end, when order is established, Chaos does not cease to constitute a threat lurking in the background. It would indeed submerge all that is stable and organized in the cosmos if the reign of Zeus, by virtue of his superior *cratos*, had not definitively fixed the place, privileges, and scope of each of the powers. (18) When Typhon stirs, he may well shake and undermine the ground, confuse every direction in space in the whirlwinds of his squalls, and confound the sky and the earth in the darkness of his storms. Nevertheless, the monster is controlled by Zeus's strength and is relegated to Tartarus, buried forever beneath the mass of Etna. (19) Similarly, the roots of the earth do indeed emerge from an opening which gives on to this same Tartarus, the realm of Night, the immense abyss that resembles primeval Chaos, and that, like it, contains within its breast the origins (πηγαί) and limits (πείρατα) of all that exists. (20) But by the order of Zeus this opening has now been closed. Poseidon sealed its bronze doors on the conquered Titans. (21) No force of dissolution and disorder can henceforth re-emerge into the light and threaten the stability of the world. All the images, on the contrary, emphasize the unshakable character of the foundations on which Gaia rests. The doors stand upon an indestructible bronze bed, born of itself. This threshold in its turn rests upon roots which stretch off indefinitely and without limit into the distance. (22) This picture anticipates, in its imagery, some of the problems which philosophy was to formulate in conceptual terms (the relation of the nonbeing to the being, of the limitless to the limit, of the undifferentiated to the defined). (23) However, it was not of a kind to satisfy the positivist minds of the Milesian

physicists. For them, the powers which make up the universe and whose interplay must explain its current organization are no longer primeval beings or the traditional gods. Order cannot be the result of sexual unions and sacred childbirth nor can it arise as the result of the gods' struggles for sovereign power which lasted until Zeus was installed on the throne of the world, flanked by Kratos and Bia. (24)

Thus the Milesians had, as 'physicists', to explain this power of stability which the earth appeared to possess. We know what Thales's answer to the problem was. He maintained that the earth does not, in fact, possess any such power. It gets it from the primeval element from which everything comes to be and to which everything returns, the source of movement and of life in the universe. The earth floats upon water which 'bears' it as it bears and animates all things. Hippolytus writes,

> Everything is supported by the water whence come the tremors of the earth, the gusts of wind, the movements of the stars; and everything that exists is carried and flows in accordance with the nature of the first cause of their generation (ἐπιφέρεσθαί τε αὐτῷ τὰ πάντα, ἀφ' οὗ καὶ σεισμοὺς καὶ πνευμάτων στροφὰς καὶ ἄστρων κινήσεις καὶ τὰ πάντα φέρεσθαί τε καὶ ῥεῖν τῇ τοῦπρώτου ἀρχηγοῦ τῆς γενέσεως αὐτῶν φύσει συμφερόμενα). (25)

Since it is both the source and the final destiny of all that comes into existence, water is, in the proper sense of the term, divine, θεῖον, and as such is present in each part of the great living thing that is the universe, regulating all changes, undergoing none itself, never ceasing to be nor to be what it is. Since it produces, governs, and envelops the whole of being, water concentrates within itself the two kinds of power which had been distinguished in myth. There, the power to engender beings in all their variety was conferred upon the primeval entities (οἱ πρῶτοι) such as Gaia, Nux, and Oceanus while the *cratos* and *basileia* were reserved for the latecomer, Zeus. (26) But for the physicists the order of the world could not have arisen - as if by decree - from the decision of a single god even if he was sovereign. The great law which rules the universe is immanent in *phusis* and it had to be present at the very beginning in the primeval element from which the world gradually emerged through a process of differentiation. They thus abolished the opposition that myth established between that which comes first from a temporal point of view (ἐξ ἀρχῆς, πρῶτιστον) (27) and that which comes first from the point of view of *cratos*, (28) between the principle which is chronologi-

cally at the origin of the world and the prince who presides over the existing order. As divine elements, Thales's water and Anaximines's air play the role which Homer ascribes respectively to Oceanus and Zeus. Like Oceanus, they are γένεσις πάντεσσι, the origin of everything, and like him they envelop the universe and at the same time constitute its limits, πείρατα, without, themselves, being either enveloped or limited by anything. (29) But like Zeus they are also κράτιστοι, the most powerful. (30) Through this *cratos* they govern the cosmos, imposing upon its process of becoming a law whose necessity, ἀνάγκη, is immanent in their nature. Περιέχειν, (31) to envelop (with all the spatial significance that the term implies), and κυβερνᾶν, to govern (with its political overtones), are the two aspects of the power of *cratein* which are henceforth united. According to Xenophanes *cratein* defines the divine as such: τοῦτο γὰρ θεὸν καὶ θεοῦ δύναμιν εἶναι, κρατεῖν, ἀλλὰ μὴ κρατεῖσθαι, καὶ πάντων κράτιστον εἶναι. (32) This expression may be compared to the one which Aristotle (in 'Metaphysics' (1074b 3)) attributes to a tradition which has come down from earliest antiquity: περιέχει τὸ θεῖον τὴν ὅλην φύσιν.

Just as, according to Aetius, Anaximines believed that the air περιέχει the cosmos like our Ψυχή, being also air, συγκρατεῖ ἡμᾶς. (33) So, according to Aristotle, Anaximander attributed to the *apeiron* which he conceived to be τὸ θεῖον, the power of περιέχειν ἅπαντα καὶ πάντα κυβερνᾶν, (34) In the light of this we can understand the expression that Diogenes Laertius ascribes to Thales, ἰσχυρότατον ἀνάγκη κρατεῖ γὰρ πάντων, (35) by comparing it with the Pythagorean doctrine as reported by Aetius, according to which, 'Ανάγκη περικεῖσθαι τῷ κόσμῳ, (36) and also the fragment of Parmenides, 'κρατερὴ γὰρ 'Ανάγκη πείρατος ἐν δεσμοῖσι ἔχει, powerful Necessity holds it within the bonds of a limit.' (37)

In the doctrine of the Milesians the old primeval or personal deities have been replaced by elements conceived as powers. They are imperishable, as the gods were, and their strength and fields of action vary in degree and scope. These powers are not abstractions that can be conceived independently of the 'places' that they occupy and their zones of activity. Each power acts within a clearly defined domain, just as in Homer each of the various gods has an allotted share, *moira*, or portion of the universe, to reign over. (38) Thus these spatial boundaries mark out the limits within which each type of power is contained. So a *dunamis* appears to be 'dominated' by what extends beyond it, by what surrounds and

envelops it, or, in other words, by what fixes its limits, its *peirata*. That which 'dominates everything' cannot be 'limited' by anything, but must, on the contrary, envelop all the rest. On the subject of Anaximander, Aristotle writes: 'τοῦ δὲ ἀπείρου οὐκ ἔστιν ἀρχή· εἴη γὰρ ἄν αὐτοῦ πέρας, there is no *arche* to the *apeiron*, for that would be its limit.... That is why it has no *arche*, but is the *arche* of other things; it envelops and governs everything.' (39) Melissos of Samos later argues in an identical way when he defines nature or being as follows: 'It would be impossible for Being to have either *arche* or *telos*: ἀρχήν τε καὶ τέλος ἔχον οὐδὲν οὔτε ἀίδιον οὔτε ἄπειρόν ἐστιν, (40) nothing that has a beginning or an end is eternal or without limit.' Being could not be other than single: 'If it were not one, it would have its limit in something else, εἰ μὴ ἓν εἴη, περανεῖ πρὸς ἄλλο.' (41) Being is the strongest thing to exist: 'nothing is stronger than the true Being, τοῦ γὰρ ἐόντος ἀληθινοῦ κρεῖσσον οὐδέν.' (42)

But it is perhaps in Anaxagoras that we see most clearly this way of thinking in which an element's *cratos* is never separated from the space that it occupies. In effect, the *nous* of Anaxagoras is defined by two features: it has no limit, and it is not dominated by anything; it is *apeiron* and *autocrates*. In the universal mixture that constitutes the world it is the only thing that is pure, καθαρός. It never mingles with anything else and remains itself alone, by itself: νοῦς δέ ἐστιν ἄπειρον καὶ αὐτοκρατὲς καὶ μέμεικται οὐδενὶ χρήματι, ἀλλὰ μόνος αὐτὸς ἐπ' ἑωυτοῦ ἐστιν. (43) Simplicius adds that anything mixed with the *nous* (that is, things which would limit it from within if it was not 'pure', in the same way that things which could 'envelop' it could limit it from without if it were not *apeiron*) would have prevented it from dominating everything as it does, being alone itself by itself, καὶ ἂν ἐκώλυεν αὐτὸν τὰ συμμεμειγμένα, ὥστε μηδενὸς χρήματος κρατεῖν ὁμοίως ὡς καὶ μόνον ἐόντα ἐφ' ἑαυτοῦ. Simplicius goes on to say: 'For it is the most subtle, λεπτότατον (and therefore can penetrate everywhere and limit everything from within), and the most pure, καθαρώτατον (and therefore nothing can penetrate it to limit it from within); it comprehends everything, καὶ ἰσχύει μέγιστον ... πάντων νοῦς κρατεῖ.' It is in the context of thought such as this that we must interpret Hippolytus's information about Anaximander. We then no longer have to choose between two incompatible interpretations according to whether one translates: the earth 'supported' by nothing, or the earth 'dominated' by nothing. On the contrary, in the eyes of the Milesians,

does not the idea of 'support', like that of 'envelop', suggest a reference to the idea of a superior power or force? Conversely, is not a *dunamis* which has the power to *cratein* another *dunamis* thereby conceived as enveloping it or at least supporting it? At all events, there is a text of Aristotle's, on the subject of why the *apeiron* is at rest in Anaxagoras, which suggests that the concepts 'to envelop' and 'to support' are closely linked, so that a power which supports another is thereby dominating and governing it as if it were enveloping it. The text runs as follows: 'Anaxagoras says that the *apeiron* supports itself, and this is because it is within itself, there being nothing else that envelops it, στηρίζειν γὰρ ἀυτὸ αὑτό φησι τὸ ἄπειρον· τοῦτο δέ, ὅτι ἐν ἀυτῷ· ἄλλο γὰρ οὐδὲν περιέχει....' (44) That which is not limited, existing in itself and by itself, is not enveloped by anything. It therefore supports itself and is *autocrates*.

In the light of these preliminary remarks it seems very likely that Kahn's proposed interpretation of ὑπὸ μηδενὸς κρατουμένην is correct since it refers to the idea of *cratos*, the power of domination. But can we not demonstrate this more clearly by showing that the use of *cratos* and *cratein* in Hippolytus, and the meaning of the expression in other comparative evidence on the same problem combine to make this interpretation all but certain?

In the first book of his 'Refutations', Hippolytus uses the verb κρατεῖν on only two occasions. The first is in the fragment we have discussed, at l. 6; the second, at l. 8: 'According to Anaxagoras the sun and the moon perform their turnings because they are pushed back by the air, ἀπωθουμένους ὑπὸ τοῦ ἀέρος. But the moon turns very often because it cannot dominate the cold, διὰ τὸ μὴ δύνασθαι κρατεῖν τοῦ Ψυχροῦ.' The use of *cratein* here is entirely in keeping with the usage made of it in cosmological and medical literature. We should note that, at l. 9, Diels-Kranz correct Hippolytus's text, introducing τὸν δ' ἀέρα κρατεῖν τοῦ παντός, (45) basing this addition upon the corresponding version of Diogenes Laertius 2. 17, where *cratein* does indeed have the sense of 'to dominate'. We shall have occasion to return to this passage which directly affects the interpretation of τὴν δὲ γῆν εἶναι μετέωρον ὑπὸ μηδενὸς κρατουμένην, even if the correction of Diels-Kranz is not accepted. In the following book, Book 4, Hippolytus again uses the term '*cratos*' in an astronomical context. According to the astronomers, 'κράτος ἔδωκεν ὁ δημιουργήσας τῇ ταὐτοῦ καὶ ὁμοίου περιφορᾷ, the creator gave domination to the revolution of the same and the similar.' Hippolytus goes on,

> They say that this power of domination, κρατο , has been given to the revolution of the same, not only because it includes that of the other, that is to say of the planets, but also because it possesses such a *cratos*, that is to say, such a *dunamis*, that it also makes what is opposed to it turn with it, by its strength, τῇ οἰκείᾳ ἰσχύϊ, making the planets move from west to east, as it does also from east to west. (46)

We must conclude, then, that in the two books that have come down to us and which present an historical description of the philosophers' doctrines by way of introduction to the 'Refutation of Heresies' itself, Hippolytus normally gives *cratein* and *cratos* the meanings that these terms had in the cosmological and astronomical writings to which he is referring.

Let us now come to the controversial passage and place it in its context. We have seen how Hippolytus presented the doctrines of Thales: everything is produced by the water as it comes together and divides; and everything is 'supported' by the water, which accounts in particular for earthquakes. Aristotle expressed the same idea more precisely when he said that, according to Thales, ἐφ' ὕδατος κεῖσθαι (τὴν γῆν), or again, διὰ τὸ πλωτὴν εἶναι, μένουσαν ὥσπερ ξύλον; and Simplicius ἐφ' ὕδατος ὀχεῖσθαι τὴν γῆν ὥσπερ ξύλον. (47)

This view of Anaximines, for whom the limitless and all-embracing air has taken the place of water as the primary element, is reported by Hippolytus as follows:

> τὴν δὲ γῆν πλατεῖαν εἶναι ἐπ' ἀέρος ὀχουμένην, ὁμοίως δὲ καὶ ἥλιον καὶ σελήνην καὶ τὰ ἄλλα ἄστιρα· πάντα γὰρ πύρινα οντα ἐποχεῖσθαι τῷ ἀέρι διὰ πλάτος, the earth is flat, supported by the air; the same applies to the sun, the moon and the other stars; for all these fiery beings are supported by the air on account of their breadth. (48)

Thus the air supports and carries everything that exists and is born from it (in particular the earth), just as in Thales the primeval water, from which the earth had emerged, had to continue to hold this earth up, giving it the support without which it would fall since it could not keep itself up. But this support is, at the same time, a limit, *peras*, which the earth needs because it is not without limit, *apeiron*. Being thus limited by something other than itself which both supports and envelops it (in space and in time), the earth cannot be said to be *autocrates* as can the *nous* of Anaxagoras.

Another of Hippolytus's texts which should clearly be mentioned in connection with the preceding one gives a clear indication of the sense of the expression used by

this author about Anaximander. On the subject of Anaxagoras, Hippolytus writes, at l. 8: Τὴν δὲ γῆν τῷ σχήματι πλατεῖαν εἶναι καὶ μένειν μετέωρον διὰ τὸ μέγετος καὶ διὰ τὸ μὴ εἶναι κενὸν καὶ διὰ τὸ τὸν ἀέρα ἰσχυρότατον ὄντα φέρειν ἐποχουμένην τὴν γῆν. (49)

In Anaxagoras, as in Anaximines, the earth is flat; it remains motionless, supported by the air. But his explanation is more detailed. As well as flatness, Hippolytus on this occasion also mentions the size of the earth, the absence of the void (in other words, the presence everywhere of air), and, above all, the fact that the air, by reason of its very great strength, is able to carry the earth which rests upon it.

We find a no less striking similarity in the expressions used in the disputed passage concerning Anaximander. In both cases Hippolytus uses similar phrases: τὴν γῆν εἶναι μετέωρον (...), μένουσαν δὲ διὰ...; τὴν γῆν πλατεῖαν εἶναι καὶ μένειν μετέωρον διὰ.... What is the source of this immobility on the one hand (μένουσαν, μένειν), and this position, 'in the air', on the other (μετέωρον)? With regard to the earth itself Anaxagoras refers to its breadth and its size. But these are secondary explanations. The basic cause is the air which, *through its superior strength*, has the power to carry the earth. The earth's breadth and size simply ensure that the air has a better hold. In contrast, in Anaximander, neither the shape nor the size of the earth has anything to do with it. There is one single and sufficient reason for the earth to be at rest, its central position at an equal distance from everything. This single explanation henceforth makes it unnecessary to refer to a support which, by reason of its superior strength, holds up the earth μετέωρον, that is to say, fixes it suspended in its place by virtue of a *cratos*, a power somehow imposed upon the earth from the outside. This concept of a *cratos*, a superior power (cf. ἰσχυρότατον), justifies the use of *cratoumene* even though in this *cratos* the aspect that is emphasized in the context is that of a force which is able to be φέρειν ἐποχουμένην τὴν γῆν.

But let us now leave Hippolytus in order to see how the pre-Socratics and other fifth-century authors deal with the problem of the relationship of the earth to the surrounding air. According to Diogenes Laertius, Archelaus believed that the water is melted by the heat and, condensing in its lower portions under the influence of fire, forms the earth; while, flowing out all round the outside, it gives birth to the air. Hence the earth ὑπὸ τοῦ ἀέρος κρατεῖται, and, for its part, the air ὑπὸ τῆς τοῦ πυρὸς περιφορᾶς κρατεῖται; the earth is dominated by the

air and the air by the encircling fire. (50) The verb '*cratein*' here takes on the nuance of 'to contain' as well as 'to support', but the essential idea is still that of 'holding', 'dominating'. We may indeed compare the expression ὑπὸ τῆς τοῦ πυρὸς περιφορᾶς κρατεῖται with the text of Hippolytus where the *cratos* in the universe is entrusted precisely to the *periphora* of the same.

At the end of the fifth century, Diogenes of Apollonia took up Anaximenes's view that air was the first element, being without limit and producing the universe through condensation (associated with the cold, immobility), and rarefaction (associated with heat, mobility). He wrote that 'everything is governed by the air and it dominates everything, ὑπὸ τούτου πάντας καὶ κυβερνᾶσθαι καὶ πάντων κρατειν'; (51) and he went on: 'for this is what I consider to be god, it extends everywhere, orders everything and is present in everything.' This divine air, 'great, strong, eternal, immortal and possessing immense knowledge', (52) imposes its own measure upon all things, πάντων μέτρα ἔχει, (53) and in particular upon the earth. According to Diogenes Laertius, Diogenes of Apollonia maintained that the spherical earth is at rest and stable, ἠρεισμένην, at the centre, having been there disposed, τὴν σύστασιν εἰληφυῖαν, by the circular motion of the heat and the freezing caused by the cold (that is to say, in fact, by the air). (54) And there is other evidence to show that, for Diogenes of Apollonia, the earth was, indeed, 'carried' by the air, ὑπὸ ἀέρος φέρεσθαι τὴν γῆν. (55)

These doctrines are reflected in literary texts which (just because they are not technical) provide us with clearer information about the implications the vocabulary of the philosophers may have had for the general public. In 'The Clouds', Aristophanes pokes fun at theories of the type held by Diogenes, and, before him, by Anaximines: Ὦ δέσποτ' ἄναξ, ἀμέτρητ' Ἀήρ, ὃς ἔχεις τὴν γῆν μετέωρον, O, Sovereign Master, infinite air, you who hold the earth suspended in the air.' (56) The verb *echein* is here the equivalent of *cratein* in the sense that a deity is said to 'possess' a territory, for example, Zeus *echei* Olympus.' 'Ἔχειν τὴν γῆν μετέωρον' does indeed mean 'hold the earth suspended', but in a way possible only for a power invoked as δέσποτ' ἄναξ.

In 'The Trojan Women', Hecuba addresses to the gods a prayer whose unusual character puzzles Menelaus, unversed as he is in philosophical debate:

Ὦ γῆς ὄχημα καὶπὶ γῆς ἔχων ἕδραν,
ὅστις ποτ' εἶ σὺ, δυστόπαστος εἰδέναι,
Ζεύς, εἴτ' Ἀνάγκη φύσεος εἴτε νοῦς βροτῶν,
προσηυξάμην σε. (57)

What is the nature of this mysterious deity that can be addressed equally well as Zeus, Ananke, or Nous? It is mistress of the universe, the power of the air itself which both serves as a support to *Ge* and is enthroned above it, in other words, it supports *Ge* but also envelops it on all sides and dominates it.

Such remarks apply to the medical writings as well as to the plays we have considered. In the 'Peri Phuson' we read that the earth is a seat for the air and that air is the support for the earth: ἀλλὰ μὴν χαὶ ἡ γῆ τούτου [ἀέρος] βαθρόν, οὗτος τε γῆς ὄχημα. And in which paragraph does this remark, which is identical to that of Euripides, occur? In the passage which aims to show that air is the origin of everything, that it commands everything, and that it is the greatest and most powerful of all beings, despite being invisible, οὗτος δὲ μέγιστος ἐν τοῖσι πασι των παντων δυναστη εστιν. (58)

But not all the philosophers agreed that air supported and enveloped the earth and thus held it in its power. So, by way of contrast, let us examine how the opposite point of view was expressed. According to Hippolytus, Xenophanes maintained that 'τὴν δὲ γῆν ἄπειρον εἶναι καὶ μήτε ὑπ' ἀέρος μήτεὑπ' ἀέρος μήτε ὑπὸ τοῦ οὐρανοῦ περιέχεσθαι, the earth is not limited and is not enveloped neither by the air nor by the sky.' (59) Another fragment clarifies the meaning of the expression used by Hippolytus: 'γαίης μὲν τόδε πεῖρας ἄνω παρὰ ποσσὶν ὁρᾶται ἠέρι προσπλάζον, τὸ κάτω δ' ἐς ἄπειρον ἱκνεῖται; we see the upper limit of the earth lying at our feet in contact with the air; but its lower part extends to infinity.' (60) If the earth is indeed in contact with the air which thus forms its limit, this only applies to the upper part; underneath, it extends into infinity and this is what remains invisible and what explains its stability. So it is not really limited by the air which neither surrounds nor envelops it. Since it is *apeiron* through its roots, the earth owes its stability to itself alone. It does not depend upon the *cratos* or the strength of the air. Thus the position of Xenophanes is directly opposed to that of Archelaus which Diogenes Laertius reported as follows: ἡ μὲν [γῆ] ὑπὸ τοῦ ἀέρος, ὃ δὲ ὑπὸ τῆς τοῦ πυρὸς περιφορᾶς κρατεῖται. (61)

This comparison of texts sets off all the more strikingly the originality of Anaximander's point of view. In contrast to Xenophanes, he rejects the ancient belief that we find in Hesiod according to which the earth possesses stability because its roots extend beneath it *es apeiron*, while the air circulates only above the earth's surface as

far as the sky, in the direction of what is upwards, in an absolute sense. He also rejects the idea of an earth floating on the boundless waters from which it was supposed to have emerged. Like Anaximines, he believes that the earth is fixed at the centre of the cosmos. So it must be surrounded on every side and enveloped by something other than itself. So, according to the points we have just made, should not Anaximander have concluded that the earth is also 'dominated' by this other element which envelops it? It is at this point that we must pay special attention to the features which are peculiar to the doctrines of this philosopher. In Anaximander's view, what envelops and dominates everything in the world is not one of the elements from which the earth is composed: it is neither fire nor water nor air. (62) All the evidence is in agreement that Anaximander does not recognize any element to be *apeiron* and that for him the *apeiron* is something other than the elements. This is not an easy position to uphold and it must have seemed sufficiently paradoxical to Anaximander's contemporaries for Anaximenes not to feel able to follow his predecessor on this point. What, indeed, could this *apeiron* be that was not a definite limitless thing, neither earth nor air nor the limitless water, but was, so to speak, boundless in itself? Yet Anaximander had his reasons, reported by Aristotle, for maintaining a point of view which in effect implied an entirely new concept of the universe. According to Anaximander, if any one of the elements did possess that limitlessness which is the property of the *apeiron*, all the other elements would finally have been overcome and destroyed by it. The elements are, in fact, defined by their reciprocal opposition, they are forces in conflict with one another. It is therefore necessary that they should always stand in a relationship of equality towards one another, as equal powers, ἰσότης τῆς δυνάμεως, (63), that is to say, as Aristotle puts it:

> the contraries should always be equal to each other and none of them should be limitless, ἰσάζειν ἀεὶ τἀναντιά, καὶ μὴ εἶναι ἓν αὐτῶν ἄπειρον; for if the power of one body is exceeded in any degree by that of another, for example, if fire is finite in amount while air is infinite, however much fire exceeds in power the same amount of air, provided that the ratio is numerically definite, the infinite body will obviously, despite everything, prevail over and destroy the finite body. (64)

Aristotle goes on:

> This is why some thinkers (among them Anaximander) propose an *apeiron* which is neither water nor air, so that

> the other elements should not be destroyed by that among their number that is *apeiron*. In fact, oppositions do exist among them, for example, air is cold, water is wet, fire is hot; but if a single one of these is *apeiron* all the rest must be destroyed; what these thinkers say is that there is something else from which all these things come. (65)

So the reason why the *apeiron* must be 'something else' which possesses the *arche* and envelops and governs everything is that no individual element should be able to monopolize the *cratos* and impose its domination over the world. The primacy that Anaximander grants to the *apeiron* aims to guarantee the permanence of an egalitarian order in which opposing powers are balanced against one another in such a way that if one of them is dominant for a moment, it is then in its turn dominated; if any one of them advances and extends itself beyond its limits it then recedes as much as it had advanced, yielding to its opposite. The *apeiron* does not represent a particular reality, an ἴδιον such as the other elements; it is the common source of everything else, the κοινόν, that which is just as much air as fire or earth or water, without being any single one of these, for it comprehends them all and unites them with one another without being identified with any particular one of them. Thus, when Aristotle and Simplicius have to define the exact relationship between the *apeiron* and the various elements, they do so by saying that it is not only *other* than the elements, ἕτερον τούτων τι ἄλλο παρὰ ταῦτα, but also the mediator, the intermediary between the elements, τὸ μεταξὺ τούτων, τὸ μεταξὺ διὰ τὸ εὐαλλοίωτον. (66) This mediator which unites the elements with one another is introduced within the framework of a way of thinking that is accustomed to oppose the category of κοινόν to that of ἴδιον and to identify κοινόν with μέσον, as being the 'middle' of the elements, their centre, τὸ μέσον αὐτῶν. (67) Aristotle remarks:

> It is not from a single one from among themselves that the elements proceed but nor is it from another body distinct from them which would be as it were μέσον τι between air and water or air and fire, thicker than air and fire but more rarefied than water and air. (68)

Aristotle rejects this hypothesis of an element acting as an 'intermediate' and he does so in terms that indicate quite clearly that such a concept goes back to Anaximander: the intermediate would, in fact, become air or fire when a pair of opposites was added to it; and Aristotle points out that 'one of these opposites is a privation from which it results that the intermediate can never

exist on its own as some have claimed for that which is limitless and all-enveloping, ὥσπερ φασί τινες τὸ ἄπειρον καὶ το περιέχον.

Thus, according to Anaximander, the limitless, which envelops, governs, and dominates all things, has, through its mediatory function, the role of a *meson*. To return to the terms used in the inscription of Tenos, it represents πάντες, the collectivity, the cosmos in its entirety, and not ἕκαστος, the individuality of each element as it exists with its own clearly defined mode of existence, its own private being. Thus, to confer the *cratos* upon the *apeiron* is indeed to make this *cratos* a ξυνόν, to set it down at the centre.

So the rule of the *apeiron* is not comparable with a *monarchia* like that exerted by Zeus, according to Hesiod, or by air or water, according to the philosophers who confer upon either of these elements the power of *cratein* the whole universe. The *apeiron* is sovereign in the way in which common law is, that imposes the same dike upon each individual, that keeps each power within the limits of its own domain, and that, in the face of any show of force or abuse of power, imposes respect for what Alcmeon was later to call the *isonomia ton dunameon*. In this sense, to withdraw the *cratos* from the elements that make up the universe and entrust it instead to the *apeiron* was to bring about a revolution in cosmological thought that was comparable to the revolution Maiandrios introduced, when, rejecting the idea that one individual can dominate men who are his *homoioi*, he made the decision to pool the *cratos*, or, to use Greek political terminology, to set it down at the centre by proclaiming *isonomia*.

The role conferred upon the *apeiron* by Anaximander was to make possible a universe founded upon the balance of forces and interchangeability of position. This led to the cosmos being represented in accordance with a circular conception of space in which the centre, rather than the top or bottom, constituted the point of reference. Under the reign of the *apeiron* all the elements had henceforth to be related to the same central point and all the *dunameis* had to gravitate around it. Thanks to its position, this central point represents the egalitarian order that presides over the whole of the cosmic system. It expresses the kind of balance that the *apeiron* imposes and itself embodies. The centre is defined by its *isorropia*, its *homoiotes*, its *isotes*, just as the *apeiron* was defined by its role as mediator among the different elements. It can thus be said of the centre, as of the *apeiron*, that it represents not so much a particular point in cosmic space, an ἴδιον, as the common mediator, among all the points in

space, a κοινόν, to which they all refer equally and from which they are all measured. As earth, Gaia is of course an element like any other. But with regard to her situation in space she occupies a privileged position which sets her apart from the other elements. Apart from the *apeiron* which remains immovable and eternal, everything in the cosmos is movement, change, transformation. Everything moves, advances, or recedes. In contrast, the earth remains immobile in its place. Why is this? Because under the domination of the *apeiron*, the world now appears to have a centre and it is precisely this place that the earth occupies. There is therefore no point in introducing a *cratos* powerful enough to 'govern' the earth and fix it in its position of *meteoron*. As Plato was later to put it:

> If the earth is at the centre of the world it has no need of air nor of any similar constraint in order to avoid falling, μηδὲν αὐτῇ δεῖν μήτε ἀέρος πρὸς τὸ μὴ πεσεῖν μήτε ἄλλης ἀνάγκης μηδεμιᾶς τοιαύτης. But what is enough to restrain it, ἀυτὴν ἴσχειν, is the equality (ὁμοιότης) among all the directions of the world and the state of equilibrium (ἰσορροπία) of the earth itself. Since, for a thing that is placed in equilibrium at the centre of a homogeneous space, ἰσόρροπον γὰρ πρᾶγμα, ὁμοίου τινὸς ἐν μέσω τεθέν, there will be no cause at all for it to incline more or less in one direction than in another. (69)

So to say that the earth is ὑπὸ μηδενὸς κρατουμένη(ν) is to declare that, being central and consequently balanced at an equal distance from all things, it has no need of air nor of any *constraint* at all in order to stay where it is. No *cratos* needs to be exerted upon it to fix it in its place, since it is this very place that, by virtue of its status as centre, confers upon it both the privilege of alone remaining immobile in a world where everything else is in motion and of not being dominated by anything. Another text of Hippolytus would seem to confirm that he was perfectly well aware of this exceptional character of the centre that sets it in contrast to all other points in space. The latter are always individual, and, as such, subject to *cratos*, while the centre stands for what is held in common, and, linked as it is with the *apeiron*, symbolizes that which is not dominated, the *autocrates*. When Hippolytus describes the views of Archelaus, he writes as follows: Τὴν μὲν οὖν γῆν [...] κεῖσθαι δ' ἐν μέσῳ οὐδὲν μέρος οὖσα ὡς εἰπεῖν, τοῦ παντός. (70) Being situated at the centre, the earth is, so to speak, not a part of the whole made up by the world. Each point, each element in the universe, whatever its position or its

power, is necessarily limited and individual. Only the *apeiron* that is neither limited nor dominated by anything, is not in any way particularized. However, the earth is not a part like any other. Because it is central (*mese, en meso*) it is not particular but common (*koine, xune*), and in this sense it is like the whole itself. On the political plane, the same applies to the public hearth, which, similarly, is not a 'private' hearth like the others, since its function is precisely to represent every hearth without being identified with any particular one. The common hearth is set up at the centre of the city in that *meson* where the *cratos* has been set down so that no one man can take it for himself, and it is called the *hestia koine* because it symbolizes the entirety of a political community, where, under the reign of *isonomia*, each individual element is henceforth *homoios* to all the others.

NOTES

1 'Eirene' (1968), 7, 5-23.

2 G. Vlastos, Equality and Justice in Early Greek Cosmologies, 'Classical Philology', 42 (1947), 156-78; C.H. Kahn, 'Anaximander and the Origins of Greek Cosmology' (New York and London, 1960); Jean-Pierre Vernant, 'Les origines de la pensée grecque' (Paris, 1962), 115-26; cf. also P. Leveque and P. Vidal-Naquet, 'Clisthène l'Athénien' (Paris, 1964), 77 ff.; M. Détienne, En Grèce archaique: Géométrie, politique et société, 'Annales', ESC (1965), 425-41.

3 'IG' 12. 5. 872, 27; 31, 38; quoted in M. Détienne, En Grèce, 428. On the opposition μέσον - ἴδιον, cf. Herodotus 7. 8.

4 Herodotus 3. 142: the same expression occurs in connection with Cadmos of Cos (Herodotus 7. 164) and with Demonax, who, in about 550 BC in Cyrene, 'set down in the middle' all that the kings had previously possessed, πάντα τὰ πρότερον εἶχον οἱ βασιλέες ἐς μέσον τῷ δήμῳ ἔθηκε (Herodotus 4. 161).

5 Cf. Plato 'Timaeus' 63a:

> Let us suppose that in the centre of the universe there is a solid body which is in equilibrium. Such a solid would never move towards any of the extremities of the world since they are everywhere alike. Furthermore, if anyone were to move in a circle around this solid, whenever he stopped and happened to be at the antipodes he could call this

same point in the world now 'below' and now 'above'.

6 Aristotle 'De Caelo' 295b 10-16, Diels, 'FVS', 1: 80, 1, 5.

7 Hippolytus 'Refutation of Heresies' 1. 6, 'FVS', 1: 84, 7-8.

8 Kahn, 'Anaximander', 76.

9 Ibid., 80 and 130.

10 Jan Janda 'Eirene' (1966), 5: 205.

11 'Ancient Medicine' 14.

12 Ibid. 5.

13 Aristotle 'On Art' 8.

14 Aristotle 'Rhetoric' 2. 1402a; 'Mechanica' 847a,22.

15 Cf. ARistotle again, 'Gen. Cor.' 331a 28-35 and 331b 1-12; Plato 'Timaeus' 56e-57c.

16 Perhaps we should also mention the κρατευταί ('Iliad' 9. 214), the fire-dogs made for supporting spits. The word was connected with κρατέω but also with κράδη. On κραταίπεδος, as opposed to a Mycenaean word, σαραπυδος (meaning soft, inconsistent, referring to a type of soil), just as κραταίπους, meaning an animal with a firm, stable gait, would be opposed to σαράπους, meaning with uncertain feet, wavering gait, cf. L. Deroy and M. Gérard, 'Le Cadastre mycénien de Pylos' (Rome, 1965), 75-6.

17 Hesiod 'Theogony' 117. On Chaos, the bottomless abyss without direction, compare the μέγα χάσμα of lines 740-3 of the 'Theogony'.

18 Ibid. 885.

19 Ibid. 868 ff.; Pherecydes of Syros in Origen, 'c. Celse' 6. 42, 'FVS', 1: 49, 23-6; Pindar 'Pyth.' 1. 26-55; Aeschylus 'Prometheus Bound' 364 ff.; Valerius Flaccus 'Argon' 4. 515 ff.

20 Hesiod 'Theogony' 809.

21 Ibid. 730-3.

22 Ibid. 811-13.

23 Cf. G. Vlastos, 'Gnomon' 27 (1955), 74 ff.; H. Frankel, 'Dichtung und Philosophie des frühen Griechentums', 139-51.

24 Hesiod 'Theogony' 383 and 403.

25 Hippolytus 'Refutation' 1. 1.

26 Aristotle 'Metaphysics' 1091a 33b 7.

27 Hesiod 'Theogony' 115-16.

28 Ibid. 49: Zeus is φέρτατος θεῶν κρατεί τε μέγιστος; 71 and 73: Zeus ἐμβασιλεύει ... κάρτει νικήσας; cf. 465, 490, 496, 506, 837, 883, 892, 897.

29 Homer 'Iliad' 14. 246; 14. 200 and 301.

30 Ibid. 8. 17 ff.; 15. 108, 164-5; 21. 190.

31 On the significance of περιέχειν, meaning

simultaneously to envelop and to nourish, to govern, to dominate, cf. Zeller-Mondolfo, 'La filosofia dei Greci nel suo sviluppo storico' (Florence, 1950), 1: 2, 62, and 4, 179.

32 Xenophanes in Aristotle 'De Melisso', Xenophaes 'Gorgias' 977a 27, Bekker, 'FVS', 1: 117, 27-8.

33 Aetius 1. 3, 4, 'FVS', 1: 95, 17-19.

34 Aristotle 'Physics' 203b 11, 'FVS', 1: 85, 14-19. On the equivalence of κρατεῖν-κυβερνᾶν, cf. Diogenes of Apollonia, frg. V. Zafiropulo, 'FVS', 2: 61, 5-6: 'It seems to me that through the air πάντας παὶ κυβθρνᾶσθαι καὶ πάντων κρατεῖν.' And similarly in the 'Peri Diaites' 1. 10. 21 ff.: το θερμότατον καὶ ἰσχυρότατον πῦρ, ὅπερ πάντων ἐπικρατέεται, διὲπον ἅπαντα κατὰ φύσιν [...] τοῦτο πάντα διὰ παντὸς κυβερνᾷ.

35 Diogenes Laertius 1. 35, 'FVS', 1: 71, 12-13.

36 Aetius 1. 25, 2.

37 Parmenides frg. 8. 31-2, 'FVS', 1: 237, 10-11.

38 Cf. Homer 'Iliad' 15. 189 ff.

39 Aristotle 'Physics' 203b 7 and ff.

40 Melissos 4 in Simplicius 'Physics' 110, 2.

41 Ibid. 110, 5; cf. Melissos 6: 'If the Being is *apeiron*, it must be one. For if there were two they could not be limitless but would each have a limit in relation to the other.'

42 Melissos 8 in Simplicius 'De Caelo' 558, 19, 5.

43 In Simplicius 'Physics' 164, 24 ff., 'FVS', 2: 37, 18 ff.; cf. Plato 'Cratylus' 413c: The *nous* of Anaxagoras which does not mix with anything and orders everything is not dominated, independent αὐτοκράτωρ. On the meaning of αὐτὸς ἐπ' ἐωυτοῦ, cf. the remarks of A.J. Festugière in his edition of Hippocrates, 'Ancient Medicine' (Paris, 1948), 47 ff.

44 Aristotle 'Physics' 205b.

45 'FVS', 2: 46, 1, 10-11.

46 Hippolytus 'Refutation' 4. 8.

47 'FVS', 1: 77, 38; 78, 2.

48 Hippolytus 'Refutation' 1. 7, 'FVS', 1: 92, 11-13.

49 Hippolytus 'Refutation' 1. 8, 'FVS', 2: 16, 9-11.

50 Diogenes Laertius 2. 17, 'FVS', 2: 45, 10-11.

51 Frg. 5, 'FVS', 2: 61, 5-7.

52 Frg. 8, 'FVS', 2: 66, 4-5.

53 Frg. 3, 'FVS', 2: 60, 13.

54 Diogenes Laertius 9. 57, 'FVS', 2: 52, 6.

55 Scol. in Basil. Marc. 58, 'FVS', 2: 54, 9.

56 Aristophanes 'Clouds' 264.

57 Euripides 'The Trojan Women' 884 ff.

58 'Peri Phuson' 3. Cf. also the beginning of paragraph 4.

59 Hippolytus 'Refutation' 1. 14, 'FVS', 1: 122, 36.
60 Frg. B28, 'FVS', 1: 135, 16-17.
61 Diogenes Laertius 2. 17, 'FVS', 2: 45, 10.
62 As Michael C. Stokes has rightly pointed out, what 'surrounds' the earth in Anaximander is not the *apeiron* but the air; and no more than any other element does air possess *cratos* over the universe or dominate the other elements. The *apeiron* does not directly envelop the earth with which it is not in immediate proximity. The *apeiron* envelops the cosmos as a whole, as a totality composed of all the various elements:

> [The Unlimited] does not surround the earth in close proximity to it, but surrounds the whole universe - and the other universes if there are any. It is outside our cosmos, and does not persist as an entity within it [...]. So though the Unlimited probably persists after the process of cosmogony is over, it does not do so within the world, and does not surround earth like Air in the cosmology of Anaximenes (Hesiodic and Milesian Cosmogonies II, 'Phronesis', 8 (1962), 30-1).

63 Aristotle 'Meteorologica' 340a 16; cf. Kahn, 'Anaximander', 187.
64 Aristotle 'Physics' 204b 13-19.
65 Ibid. 204b 24-9.
66 The collected texts can be found in Kahn, 'Anaximander', 36, and they are discussed on 44 of the same work.
67 Aristotle 'Physics' 205a 27.
68 Aristotle 'Gen. Corrupt.' 332a 19-25.
69 Plato 'Phaedo' 108a-109a.
70 Hippolytus 'Refutation' 1. 9.

8 Space and Political Organization in Ancient Greece

By studying the figure of Cleisthenes, the Athenian, after whom their recent book is named, P. Levêque and P. Vidal-Naquet have endeavoured to define the significance of a transformation that took place in the social life of the Greeks. (1) Their 'Cleisthène' is not a biography, which it would have been impossible to write, given the lack of information. Nor is it simply a critical discussion of reforms attributed to Cleisthenes, and of their chronology. In order to understand the revolution introduced by Cleisthenes the authors have extended the framework of their inquiry, placing the evidence we possess in a historical context understood in all its scope and complexity. Their study becomes that of the Greek *polis* during the last years of the sixth century, and of the transformations which at this time take place at the various levels within it. They have, however, found it possible to control this extensive material by indicating, right from the start, the essential problems, and by describing the methods of research with which they hope to resolve them. They sought to identify, and then examine, those sectors of social life in which the changes associated with the name of Cleisthenes are most definitely attested and which offer the historian the best chance of a precise assessment of their impact.

Cleisthenes's reforms concern the political institutions of the city. They set up the framework within which the political life of classical Athens took place. Indeed, in their case one should speak not of a transformation but of an inauguration of politics, the emergence of a true political dimension in the social existence of the Greeks. It is noticeable that between the times of Solon and Cleisthenes there is a change in the terms in which the conflicts dividing the city are expressed. It is not just that the conflicts themselves are different.

The centre of gravity in the disagreements has shifted: the clash of opposing forces takes place in quite a different context. Let us draw attention to the most significant shift of emphasis. Economic preoccupations are superseded by a concern with civic institutions. In Solon's day the question of debts and land tenure was in the forefront but now this yeilds in the face of a new problem: how to create an institutional system making it possible to unify groups of human beings still separated by different social, family, territorial, and religious status; how to detach individuals from their former loyalties and traditional ties in order to weld them into a homogeneous city composed of similar and equal citizens sharing the same rights of participation in the direction of public matters.

This is a turning point in the history of ancient societies. Through the constitution introduced by Cleisthenes the city became a democracy. It did so to some extent self-consciously. The concept of *isonomia* dates back to a period when there was not yet a clear distinction between the democrats and the oligarchs who were together in alliance against the tyrants. At this point it takes on a new meaning, a clearly defined political significance. There is one feature which emphasizes the new importance of politics, now conceived as what regulates the communal exercise of sovereignty. At the time of Solon cities faced with a crisis would appeal to some figure who was endowed with certain exceptional gifts - an arbitrator, a foreign legislator designated in many cases by an oracle, or a tyrant. In contrast, the ideal of *isonomia* implies that the city resolves its problems thanks to the normal functioning of its institutions, through respect for its own *nomos*.

With a single-mindedness, the audacity of which has often been remarked upon, Cleisthenes designed the political framework within which the Greeks of the classical period exercised their social activities. By turning a man first and foremost into a citizen who devoted the best part of himself to public life, this framework imprinted a particular character upon the behaviour, values, and psychology of the group, just as it altered its way of life.

Such a transformation affecting the framework of life in society, and orienting those human activities that are judged to be most important, clearly affects the whole man. The authors we are discussing are obviously well aware of this for they concentrate mainly upon the mental aspects of a reform which they interpret as being both political and intellectual. The subtitle of their book is is 'Essai sur la reprét sentation de l'espace et du temps

dans la pensée politique Grecque de la fin du VIe siècle à la mort de Platon'.

G. Glotz had already drawn attention to the sense of geometry permeating the reforms of Cleisthenes. (2) And we ourselves have contrasted the geometrical nature of Greek cosmology and science with the arithmetical character of eastern scientific thought, and have attempted to relate the former to the way in which space in the city-state was organized as a homogeneous entity where the centre alone had a privileged position precisely because, in relation to it, all the various points occupied by the citizens appear symmetrical and reversible. (3) Levêque and Vidal-Naquet take up their inquiry with all the rigour of historians who are concerned with linking two facts in civilization only when there exists evidence that makes it possible to discern the actual point of contact between them in the chain of historical events. Far from limiting the inquiry, this insistence on the facts in effect extends it. For while the reforms of Cleisthenes may reflect first and foremost a profound transformation of civic space they also affect other categories of thought, namely, the organization of time and numerical systems.

The changes affect space, time, and number all at once, and follow courses which are clearly parallel. In contrast to earlier representations of space, time, and number that were loaded with religious significance, we find new ways of ordering experience in tune with the organizational needs of the world of the city-state - a truly human world in which the citizens themselves deliberate upon and decide their own communal affairs.

The most striking feature in the reforms of Cleisthenes is the decisive role played by principles based on the land, rather than by those based on the clan, in the organization of the *polis*. The city is conceived in spatial terms. Tribes, trittyes, and demes are marked out on the ground as so many real divisions which can be drawn on a map. This space has a centre, the town, which constitutes, as it were, the heart of the whole of Attica, where each tribe is represented. At the centre of the town itself the *agora*, now reorganized and remodelled, forms a public space, clearly circumscribed and henceforth marked out by boundary posts. On the *agora* the bouleuterion is built. This is the seat of the Council of the Five Hundred, composed of representatives from each tribe who occupy the hall each in turn, or, in other words, preside over the sessions of the *ekklesia*, with the privilege of lodging at the common hearth during this period. The transformation in the significance of the centre seems

strikingly marked here as it changes from a religious symbol (Hestia, the goddess of the hearth) into a political one (the common hearth of the city, *hestia koine*). (4) Here at the centre of the city the *hestia koine* still evokes the memory of the family hearth. This, the domestic altar, fixed as it was to the ground, rooted the human house into the earth at one specific point, making each *oikos* different from every other, and giving it its own individual religious character. It made the family a closed group and kept it pure and free from all contact with the outside. (5) The hearth became *common*; it was built on the public open space of the *agora* rather than inside private dwellings, and it sheltered the prytanies and hence the *boule* that was the embodiment of the city as a whole. It thus henceforth stood for the centre, as the common denominator of all the houses that made up the *polis*. The centre was established in a space that was, it is true, composed of different parts, but all these parts were clearly similar, symmetrical and fundamentally equivalent in their common relationship with this single centre represented by the *hestia koine*. The centre no longer expressed in spatial terms the notions of differentiation and hierarchy but rather those of homogeneity and equality. It should be added that, being now associated with political realities which it is now its function to express, the symbol of the centre loses its old religious significance. Levêque and Vidal-Naquet describe this aspect of the change as a secularization, as it had occurred to us to do. There has, however, been some disagreement over the expression. (6) And indeed one can see that it is perhaps somewhat anachronistic. So, having remarked that the reforms of Cleisthenes are deeply secular, the authors of 'Cleisthène' are quite right to add 'in so far as there could be any such thing in the sixth century'. Nevertheless, even if our terminology is somewhat unsuitable and our contemporary categories do scant justice to the relationships between politics and religion among the Greeks, the concept of the centre, as it appears in the political symbolism of the common hearth, takes on a marked positivist and abstract character. The hearth has shed its chthonic associations and its cosmic implications; mystery is excluded. L. Gernet writes, 'Men set it up as they see fit; it is a mathematical arrangement of a territory which could quite well be anywhere; the centre is arbitrary, even theoretical; a hearth can be moved at will.' (7) Even if the common hearth remains associated with a religious context, this is a new form of religion, a religion which is itself political, and it is the political aspect that should be emphasized for it has

that 'rational and almost organized character' (8) which the Greeks at an early stage conferred upon anything to do with politics. It has been remarked - quite rightly - that any magistracy retains a religious character. But there is a converse to this truth. After Cleisthenes, certain priesthoods, whose importance continues to increase throughout the fifth and fourth centuries BC, are genuine magistracies. One significant fact, rightly pointed out by Levêque and Vidal-Naquet, is that Cleisthenes appears to have originated the institution of the tribal priesthoods. These were annual priesthoods elected by lot from the entire civic body according to the same election procedure as that used for magistracies with a purely political function which we would today term secular. These civic priesthoods present a contrast with the ancient clan priesthoods which were the privilege of certain *génè* possessing religious secrets and associated with local cults. If, when considering Greek religion, one does not take the changes - not to say reversals - into account, it is impossible to understand either the development in the fifth century of the almost aggressively realistic political thought of the sophists, or the lucid rationalism shown by a historian such as Thucydides.

The development of an abstract space linked with the political system is matched by the creation of civic time, answering to the same needs. It is legitimate to connect Cleisthenes with the prytany calendar which throughout Athenian history was contrasted with the religious calendar. Whether this calendar established a year of 360 days (10 prytanies of 36 days each), or one of 366 days (6 prytanies of 37 days each and 4 prytanies of 36), it is based upon the assumption that the 10 territorial tribes each take a turn in administering the city-state. As Levêque and Vidal-Naquet point out: 'The organization of time mirrors that of space: to hold the prytany means, for each tribe, both to occupy that place in the course of the political year, and also to delegate fifty of its members to the communal hearth which is the heart of the *polis*.' (9) Again, like space, civic time is characterized by its uniformity in contrast to religious time which is punctuated by festivals which divide the cycle of the year into qualitatively different and sometimes even clearly opposed portions. From a political point of view all the periods of civic time are equivalent and interchangeable. A prytany is defined not by its peculiar temporal quality but by being like all the other prytanies. There has been a change from one temporal system to another, which is, in many respects, its opposite....

The political system, civic space, and the prytany

calendar are ordered and measured by numbers. First, the number three is important as expressing the whole, but even more so are the numbers five and ten, which have a special role to play in Cleisthenes's reforms. How should one interpret these preferences? Should we, as Glotz suggested, detect here an influence from the politico-mystical speculations of the Pythagoreans? On this latter point our authors conclude that we should not. Their conclusion seems all the more acceptable to our mind in that they suggest a most convincing explanation of their own. The choice of ten has a particular interest in this connection, in that, according to Aristotle, by fixing the number of tribes at ten Cleisthenes was deliberately rejecting the number twelve which had previously been the number of the trittyes among which the whole citizen body had been divided. Yet the adoption of a decimal as opposed to a duodecimal system went against all the political traditions of the Ionians. It must also have conflicted with certain traditional ways of thought rooted in religion (the twelve months of the religious calendar, the twelve great gods of the Pantheon). On the other hand, possibly from as early as the beginning of the sixth century, there had existed a system of acrophonic - generally known as Herodian - counting which was clearly based upon ten and five. We may assume that this numerical system was to a large extent adopted in response to the increasing use of currency and the need to keep written accounts. At this point we should remember the role played by writing in the early years of the city. Once a text had been written down, it was available to the eyes of all and sundry and thus now no longer belonged to the private sector alone but became common, public property. It was now the direct concern of the group as a whole. It became, in a sense, part of political life. So there is a perfectly natural explanation for Cleisthenes's preference for five and ten. He adopted the numerical system which the medium of writing had already introduced into the public domain and which was opposed to the duodecimal system by virtue of its secular character and its everyday usage.

Thus the coherence of the reforms introduced by Cleisthenes, which historians have often noted in connection with the political institutions, appears to be just as striking in respect of the categories of thought. The political transformation was the outward sign of a change in the intellectual domain. This raises two types of problem. First, what were the social factors which played a determining role in these transformations? And,

second, to what extent can one establish a link between the new political idea of *isonomia* implying a geometrical view of the city, and other expressions of the Greek genius from different aspects of their culture?

The answer to the first problem involves the entire economic and social history of archaic Athens. Needless to say, Levêque and Vidal-Naquet could not deal with or even start to tackle so vast a question. Instead, they focused their sights upon better defining the special place and role of the Alcmeonid family in sixth-century Athens, where political life was dominated by rivalry between the great noble *génè*. The Alcmeonids were a truly aristocratic family, but in a certain sense a peripheral one, and they almost always stood in opposition to the other noble houses. Ever since the murder of Cylon in the second half of the seventh century a religious curse had weighed upon them and their enemies from time to time saw to it that this was clearly remembered. Through this they acquired what our authors term a 'heretical function' within the developing city. The special status of this great heretical family, its exiled members, the connections it established with Delphi, its policies based on foreign alliances and prestige abroad - all this sheds light upon the twofold nature of the reforms introduced by Cleisthenes. Even while they laid the foundations for democracy in such a novel way, they also, through loyalty to family traditions, preserved certain ancient institutions of an aristocratic nature such as the Areopagus or census class system. Our authors even carry their analysis further. When Herodotus says of Cleisthenes that 'he binds the people (*demos*) to his *hetairia*,' (10) his terminology emphasizes the extent to which Cleisthenes's policies remained within the framework of the traditional rivalry between the aristocratic *génè*. However, the *demos* that Cleisthenes is so anxious to bind to his own cause is no longer the same as it was in Pisistratus's day when *he* depended upon it for support. In those days it was composed of the inhabitants of the rural demes rather than the citizens of the *astu*. Between the time of Pisistratus and that of Cleisthenes an urban *demos* developed and itself became a 'political class'. It was this urban *demos* that Cleisthenes wished to rally and that he integrated into the state by means of reforms which gave more political power to the town as such. The commanding position henceforward enjoyed by the town, the centre of the new civic space, was nevertheless not of a kind to ruin the power of all the ancient families. We know for instance that the Eupatridai were defined as living in the town, as opposed to the peasants who lived in the country.

And in the fifth and fourth centuries noble families still in effect lived in the urban demes. So it was above all the rural 'lords' who were adversely affected by the new political organization, and it was their individual power that was broken. The Eupatridai within the town were not excluded from the state; they were, in fact, integrated into the democracy.

There is certainly evidence to support these remarks concerning the appearance of the urban *demos* composed of artisans and merchants alongside the urban nobility. However, to put the matter in its true perspective, we should perhaps add that Cleisthenes's constitution aimed precisely at bypassing the opposition between country and town, and setting up a state which deliberately ignored distinctions between town and rural dwellers in the organization of tribunals, assemblies, and magistracies. This is really the meaning of the 'mixture' that Cleisthenes wished to achieve, involving all the elements hitherto composing the city. At this period the town was already inhabited by artisans and merchants who formed an urban *demos*, and it implied a particular way of life with its own forms of activity. Nevertheless, what essentially defined the town was not a special way of living or a particular category of citizens, but rather the fact that it concentrated all the civil and religious buildings linked with the communal life of the group - everything that was public as opposed to private - at the centre of the land, as at one single point. Within the framework of Cleisthenes's constitution neither the city dweller nor the rural inhabitant was represented as such in the *politeia*.

In a study that is concerned especially with defining the intellectual aspects of a political reform, the second problem we mentioned, the relationship between Cleisthenes's revolution and other changes in thought, is particularly important. Levêque and Vidal-Naquet approached the problem from various angles and clearly indicated the difficulties that a historian must face in resolving it.

In our own work, 'The Origins of Greek Thought', we emphasized the striking similarity that existed between the following two models: (1) the cosmological model for the order of the physical universe adopted by the first Ionian philosophers, and seen particularly clearly in Anaximander, and (2) the political model for the organization of the city which is most fully expressed in the *politeia* of Cleisthenes. In both cases we noticed a similar geometrical emphasis and a comparable spatial schema where the central point and the circle were

important in that they formed the basis of symmetrical, reversible, and egalitarian relationships among the various conflicting elements in the natural or the human cosmos. This similarity in structure was supported by the use of the same terminology and conceptual equipment in both physical and political thought. Ours was a structural analysis involving a comparison between models, studying these in the clearest, because most fully worked out, examples. They were, however, taken from different periods (the first half and the end of the sixth century) and from different areas of the Greek world (Miletus and Athens). This double disparity did not, in our opinion, invalidate our comparison. For one thing, a text of Herodotus reporting a proposal of Thales made to the Pan-Ionian Assembly shows that the geometrical character of Milesian physics had direct political implications; (11) and furthermore the political concept of *isonomia* in Alcmeon was an expression of that same balance between opposing physical forces upon which, according to Anaximander, the order of the universe depended. Finally, although we were comparing the widely separated cosmology of Anaximander and the constitution of Cleisthenes, we did indicate that there were intermediary links between them. For instance, the political text on the subject of *isonomia* whose terminology, fundamental concepts, and general point of view we compared with those of the cosmological fragments of Anaximander, does not come from the Athens of Cleisthenes's day. Herodotus reports it as coming from the lips of Maiandrios addressing his fellow citizens of Samos in about 510 BC. (12)

Such points were, in our opinion, appropriate in the context of a sociopsychological analysis. However, they were not of a kind to satisfy historians concerned with tracing the effective course of the influences at work in the complex of historical data. Levêque and Vidal-Naquet put it like this:

> The problem is to discover whether Cleisthenes's *isonomia* and the representation of the cosmos as it appears in the Milesians are two phenomena that, although parallel, do not have any common link, or whether on the contrary the mental universe of Anaximander was of a kind to be understood by the founder of the new city. (13)

They thus reopened the inquiry and pursued it on several levels. Their first move was to try to discover what were in fact Cleisthenes's models. He appears to have been inspired not so much by his own ancestor and namesake, the tyrant of Sicyon, but rather by certain aspects of Lycurgus's 'Rhetra' with its local divisions and its

obai that provided the framework for the army of the equals. However, there were two incidents that seemed to Levêque and Vidal-Naquet to be characteristic of the intellectual and political climate in which we must set Cleisthenes's generation. We ourselves, in fact, had mentioned the first incident reported by Herodotus and concerning Thales's proposal to the Assembly of the Pan-Ionians in about 547. Thales proposed to create one single *bouleuterion* at Teos because this island was 'at the centre of Ionia', (14) μέσον Ἰωνιης. Herodotus's text itself suggests a comparison with Cleisthenes since, to describe the new status of the various cities in relation to this new single centre for the Ionians, he uses the term 'demes' in the sense that this expression had acquired after the reforms made by Alcmeonide. The second incident that our authors bring to notice is also taken from Herodotus. Towards 550 the Cyreneans, acting on the advice of Delphi, requested Demonax to give them a constitution. Demonax stripped the monarch of all but his religious powers and placed all the other attributes of power 'in the middle for the people', ἐς μέσον τῷ δήμῳ. (15) This reform is one example, among others, of the experiments that were tried out in the colonial cities of the sixth century which were, so to speak, political laboratories. The most radical form of these experiments is, without doubt, to be found in the communist regime set up at the beginning of the century in the Lipari Islands by the survivors of the expedition led by Pentathlos. The parallel between Cleisthenes's reforms and a colonial undertaking of this kind is all the more striking in that Cleisthenes, whom we know to have been supported by Delphi, gives a place of special importance, in the civic religion he set up, to the ten founding heroes. These were the Archetes whom the Pythian oracle selected from among the hundred names of heroes put forward, to be the eponymous heroes of the ten tribes. Now the Archegete (who is at times distinguished from and at others confused with the founder) plays a role of the greatest importance in the foundation of the colonies and in their civic religion. We can therefore assume that, at the time when the archaic form of Greek colonization was dying out, Cleisthenes transposed some of its traditions and adapted them to Athens. This argument of Levêque and Vidal-Naquet carries all the more weight when we bear in mind that, according to Elian, Anaximander himself had directed the founding of a Milesian colony in Apollonia, on the Black Sea. (16)

A second line of inquiry reaches similar results by a different route. One of the most characteristic products

of the geometrical rationalism of the Milesians was the making of the first maps of the inhabited world. On the surface of the earth, which is bounded by the circular course of the river Ocean, the *oikoumene* is depicted within a regular grid system. Despite their apparent lack of order, lands, seas, and rivers figure on this map grouped and arranged in accordance with strict relations of correspondence and symmetry. These maps, which presented the public with a carefully rationalized image of the *oikoumene*, may well have had a political function. Towards 500, Aristagoras of Miletus, who was seeking allies against the great king, took with him a map of this type, engraved on bronze, and showed it in Sparta to Cleomenes, to win his support. Being unsuccessful, he went on to Athens where he pleaded his cause once more, this time not in front of a king but before the assembly of the people. We may imagine that here, as in Sparta, he produced his map to show the positions of the various territories of the Persian empire, stretching from the Ionian coast right down to Susa. Unlike Sparta, Athens decided to send ten ships. There were clearly political and circumstantial reasons to account for the contrasting behaviour of the two cities. But the political differences do themselves correspond to two different mentalities.

There was another facet to our authors' study. The innovations of the work of an artist such as Antenor, whose role in relation to Cleisthenes is comparable to that of Phidias to Pericles, bears witness to a change in mentality which calls to mind the geometrical rationalism of the Milesians. Archeologists have emphasized the precision of Antenor's spatial composition, his concern to balance the whole work around the central theme he is illustrating and his ability 'to fill the framework formed by the tympanum in a rational manner, and of keeping the central figures in scale with the symmetrical figures at each side.' (17)

Antenor has been reproached for this 'excessive logic and discipline'. (18) But should it not, too, be ascribed to the new spirit which was then making itself felt in Athens and which appears to have been very susceptible to the influence of Ionian thought?

At the end of their analysis Levêque and Vidal-Naquet thus conclude that there was a coincidence between Anaximander's type of geometrical view of the world and the political model of a city governed by *isonomia*, such as Cleisthenes attempts to bring into being in Athens. A coherent intellectual atmosphere, a correspondence between

physical and civic space, and a unity between philosophy and public life are all features of the sixth century BC. In the fifth century culture loses its internal coherence and the various domains of social practice and theory lose their integration. The world of the geometers and of the astronomers moves away from that of the city. With Parmenides philosophy becomes independent. Each type of discipline, at grips with its own problems, has to develop its own ways of thinking and its own terminology and elaborate its own logic. Thus a rift developed between space as conceived by the mathematicians on the one hand and the space of the political community on the other, and Levêque and Vidal-Naquet believe this rift to have been profound. After Hippasus had discovered the incommensurables in the middle of the fifth century, and Hippocrates of Chios had composed the first elements of his geometry, it was no longer possible for geometrical space, now entirely undifferentiated, to accommodate a privileged central point. In contrast, as a kind of reversal to earlier forms, the space of the city became more and more markedly differentiated in its political institutions and in its architectural layout. Both in the theories of the political reformers and in the undertakings of the town-planners, the city now appears as composed of many parts each with different functions. Here, the work of Hippodamus is particularly revealing since this Milesian appears to have been both the first town-planner and also the first true political theorist. His ideas on civic space thus include both aspects of the *polis* at once, that is, both the political organization of the city and its architectural design. He distinguished between different specialized functional classes within the same social group. According to Aristotle, he even invented this way of dividing the city into classes, a practice that had such a remarkable history in later political theory. At the same time, in his town plans he began by distinguishing different main areas corresponding to various types of activity - political and administrative, religious, and economic. Cleisthenes's centralized civic space was aimed at integrating all the citizens in the *polis*, without differentiation. The political and the urban space of Hippodamus have one fundamental feature in common in that they show a high level of differentiation.

However, the very progress made in mathematics was to make it possible, in the fourth century, for geometry and politics to come together once again. It was probably in the Pythagorean groups which came to power in Tarentum under Archytas that attempts were first made to apply mathematical concepts to social problems arising from the

crisis in the city. The simple concept of equality expressed in the ideal of *isonomia* was replaced by more sophisticated ideas. Distinctions were drawn; arithmetical was opposed to geometrical or harmonic equality. In point of fact, proportion became the fundamental concept. This justified a heirarchical conception of the city and at the same time it made it possible to see in the institutions of the *polis* the 'analogical' reflection of a cosmic or divine order that was superior to man. So we should not be misled by this new partnership between geometry and the politicas. This is not a return to the past. The fulcrum of ideas has changed. In the sixth century BC what was essential was to define and promote a truly human order. One could say that when the sixth-century BC philosophers thought about the order of the world they had the city in mind. In the fourth century BC the attention of the philosophers was directed toward what was divine. They contemplated the heavens and the regular movements of the stars. It was the heavens that provided the basis of their conception of the organization of the city despite the fact that history had already ruined its traditional structures.

For Cleisthenes, the problem was to recast the institutions of Athens; for Plato, it was to find a basis for the city. When one passes from attempting to organize the real city to the theory of the ideal city or utopia, the relations between mathematics and politics are reversed. The city no longer plays the role of a model. Politics no longer represent that privileged area where man believes himself able to resolve the problems that concern him by deliberate acts decided after due discussion with his peers. Now mathematics serve as the model because they are a manifestation of divine thought in the minds of those exceptional men, the philosophers. It is for this reason that, having analysed Plato's city as presented in concrete terms in the 'Timaeus', the 'Critias', and the 'Laws', Levêque and Vidal-Naquet point out that, despite all the features that Plato borrows from the states of his own day, his theoretical city, far from being a true representation of the city of the classical period, is in many respects its opposite. In Plato's city it is no longer men so much as the gods who are in control, and Plato's efforts are directed less towards finding institutions through which the citizens could govern themselves than towards setting up a city which, so far as possible, will rest in the hands of the gods. As for the civic space and time that Cleisthenes created 'they naturally come to reflect what happens in the heavens so that the microcosm of the city participates in the macrocosm of the universe.' (19)

The interest of a book lies not only in the results and new ideas presented: it can also be measured by the number of problems the book raises, and the thoughts or even the objections it provokes. Levêque and Vidal-Naquet expressed their thesis concerning the 'reversal' in the concept of civic space, which took place during the fifth century, in a deliberately radical manner. Thus it provokes a whole series of questions concerning certain essential features of the city and of political thought during the archaic and classical periods. We have already expressed our agreement with Levêque and Vidal-Naquet's conclusions on the subject of Cleisthenes's reforms, their intellectual impact, and the organization of space that they imply. But should one speak of a rift, a reversal in attitudes towards social space, where the fifth century is concerned? Is it not rather simply a matter of a shift in accent, still within the framework of a similar type of political thought?

We should first note that the example of Hippodamos, cited by our authors, is not particularly favourable to the hypothesis that during the fifth century a rift appeared between the astronomers' idea of space and the space of the city. True, Hippodamos appears to have been both a political theorist and a town planner, but the ancients considered him first and foremost as someone who was wise about natural phenomena or a 'meteorologist'. (20) From this point of view he fits into the Ionian tradition. He follows very directly upon men such as Thales and Anaximander. Hippodamos was a philosopher seeking to explain nature, but he did not, for all that, turn aside from civic life; he appears well integrated in the world of the city. Physical space, political space, and urban space are not separated in his thought; they form part of a single complex of ideas.

But the fundamental problem remains; for Hippodamos space is differentiated rather than homogeneous in character. Before considering the significance of this feature and attempting to discover how far it marks a reversal of Cleisthenes's idea, we must assess a few of its implications. Hippodamos conceives the physical universe and the human world to be entities whose constituent elements, being not entirely homologous, do not stand in relationships of equivalence with one another but are in relations of proportion to one another, in such a way that their very diversity produces the unity of a *harmonia*. So it follows that, even as early as the fifth century, political thought must have developed a hierarchical model of the city, and sought to justify it in terms of astronomy and mathematics. The first attempts to apply concepts of

number, proportion, and harmony to the organization of the city may therefore antedate Archytas - although he was the one to give them a clear formulation. They may, in fact, go back to early Pythagoreanism. The lack of contemporary evidence means that, like every other conclusion concerning the earliest Pythagoreans, this must be purely hypothetical. However, it does appear to be fairly probable when one bears in mind two well-established facts. The first is that a hierarchical model of the city certainly existed. It existed, for example, for Solon (who attempted to bring the *eunomia* into being by assigning each man his exact share within the *polis* in accordance with his worth, his *arete*). And it is also reflected in the institutions themselves, in the system of the census classes. Second, the ancients are in agreement in attributing to Pythagoras the theory that everything in the universe is ruled by numbers, or even is number. Levêque and Vidal-Naquet themselves correctly point out, in the pages that they devote to the activities of the Pythagorean group at Crotona, that, for the members of the sect, there was no difference in kind between public preaching aimed at political change, and geometrical and astronomical thought. True, we must certainly grant them that it would be anachronistic to label Pythagorean politics as being either aristocratic or democratic. At that stage the problem cannot be discussed in these terms. Nevertheless, on the whole, the Pythagoreans favoured a hierarchical concept of the city seen as a *harmonia*. Solon distinguished in the civic body between those he called the 'nobles' and the 'villeins' (using these terms in both their moral and social senses). In the same way, in the lists of pairs of opposites that have come down to us, Pythagoras does not attach the same value to the terms of each pair but distinguishes a positive and a negative pole, the latter necessarily remaining inferior to the former in the mixture that it forms with it.

Was Hippodamos influenced by Pythagoreanism? At all events his theories show that the current of thought to which Pythagorean politics belong persisted throughout the fifth century and eventually found expression through men such as Archytas and Plato. For the whole of this tradition, order, both in nature and in society, implies differentiation and hierarchy. Should we not then conclude, in company with Levêque and Vidal-Naquet, that civic space for Hippodamos, and even more for Plato, is in total opposition to Cleisthenes's model?

And yet we feel that such a claim needs modification. In the course of their comparison between Cleisthenes and Pythagoras, Levêque and Vidal-Naquet emphasized what they

called the ambiguities of Pythagorean politics. The question we should like to raise is, was there not, in the Greeks' very conception of *politeia*, an ambiguity sufficiently fundamental to mark, to varying degrees, the entire body of their political thought? (21) The Greeks did not, as we do, make a clear distinction between state and society, between the political and social spheres. For them, the important opposition was between the private and the public sectors. Whatever did not belong to the private sector was connected with the public, common sector, which is to say ultimately with the political sphere. (In contrast, most of our own social activities which bring us into contact with others fall neither within the purely private nor within the purely political sphere.) In the ancient world every human society was considered to be composed of many parts, differentiated by their functions. But at the same time, in order for this society to form a *polis*, it was necessary for it to appear on one level, as a unified entity. Since the term *politeia* refers both to the social group as a whole (society), and also to the state in the strictest sense, it is difficult to construct an altogether coherent theory about it, for, depending upon one's point of view, the *politeia* sometimes appears multiple and heterogeneous (with all its diversity of social functions) and sometimes as a unified entity (with its equal and common political prerogatives that define the citizen as such). Aristotle's embarrassment when dealing with this point is significant. Aiming his remarks against Plato whom he criticized for wishing to bring about a complete unity in the state by means of his proposals for a communal way of life, Aristotle writes that by dint of unification the city would cease to be a city, since the *polis* (inasmuch as it is a human group) is by nature a plurality (πλῆθος) and cannot grow from individuals who are all similar (ἐξ ὁμοίων). (22) But then this does not stop him from declaring, a few lines further on, that since the *polis* (as a state) depends upon equality and reciprocity, power must be equally divided among all the citizens who should implement it each in turn and who should be considered, apart from their individual responsibilities, to be all similar (ὡς ὁμοίους). (23) Nor does Aristotle's conclusion resolve the antinomy. When he writes: 'The *polis*, which is a plurality, must, through education, be made communal and one', (24) he does no more than formulate the problem that political thought has always attempted to solve and that arises from the double meaning of *politeia* in the strict sense of the term. The *politeia* is not totally identified with the life of the group: there are

some activities which can be called social (since they are indispensable to the life of the group and they establish contacts between men) but which remain outside the province of the *politeia*. Yet if it is taken to mean that which is common to all as opposed to that which is private, *politeia* expresses the very essence of all social life. Whoever is excluded from the *politeia* is, in a sense, also excluded from society. Legislators, statesmen, and philosophers were all to suggest different solutions to the problem but they always formulate it in the same terms and this gives a common bias to all Greek political thought despite the controversies and contradictions within it. Whether the *politeia* was extended to include a city's entire body of free men or whether it was limited to a more restricted group, and whether or not there were distinctions between the various members of the city regarding their right to the common exercise of power, it was always a matter of forming the citizens into a truly united collectivity despite all the differences between the various individuals who composed it.

Cleisthenes's solution may indeed be said to have something of the force of a model. It represents one of the extreme poles of political thought. The reforms were aimed at creating an undifferentiated civic space within which all Athenians, whatever their family, profession, or dwelling-place, could appear as equals in so far as they were all citizens of the same state. Thus the *polis* tended to take the form of a world without stratification or differentiation. Admittedly, one can point out that by retaining the census classes Cleisthenes also kept an element of hierarchy in his system. However, we do not consider this to be a telling objection, since, in defining the spirit of Cleisthenes's revolution, one must pay attention not to what it retained from the past but rather to the characteristics of the innovations that it introduced, taken as a whole. One must then agree that when Cleisthenes remodelled the state he was prompted by the ideal of an egalitarian city in which all the citizens would be on the same level and would occupy symmetrical and reversible positions in relation to one common central point. On the other hand it must be noted that he stressed the importance of equality and non-differentiation all the more precisely because he was attempting to remedy an existing situation characterized by separation and division. Cleisthenes's task was to unify a city rent by factions, clientships, and local rivalries. The establishment of a unified political framework was essential if the various separate elements of the civic body were to be welded into one single whole.

Although set in a historical context which has undergone considerable changes, Hippodamos's preoccupations appear to be quite similar. Cleisthenes's type of *isonomia* did not succeed in eliminating social conflicts. Plenty of cities in the fifth century and even more in the fourth were torn by internal strife in which interests which we should call economic were much more important than they had been in Cleisthenes's period. These conflicts became increasingly serious and thus it was that Plato was to criticize the struggle between rich and poor, drawn up into enemy camps, that was taking place behind the facade of unity of the democratic state. The division of the classes according to function appears to have been an echo of the Indo-European tradition of dividing society into three classes. In the eyes of those who supported a division of this kind its purpose in institutionalizing the differentiation between the social classes was simply the better to ensure the complete unity and homogeneity of the state. Apart from this, Hippodamos's solution is still fairly close to that of Cleisthenes. Hippodamos distinguishes three classes in the social body, each of which has its own particular function - the warrior class, the artisans, and the farmers. He divides the territory into three sectors, one sacred, reserved for the gods, one public, reserved for the warriors, and one private which falls to the farmers. But all the classes are united and equal in the strictly political sphere. Together they compose a single unified *demos* which elects its own magistrates. Even if Hippodamos's system implies a differentiated view of human society, it does not introduce any hierarchy in the political sphere as such. He makes distinctions between and classifies the various types of activity which appear to be necessary to the life of the group, but which, for all that, remain outside the political sphere if this is taken to mean the common exercise of sovereign power. The one new feature of his system, and it is its key, is that the military function becomes a specialized activity entrusted to a class of professional warriors. Now, in contrast to the activity of the artisans or that of the farmers the warrior activity was considered by the Greeks to belong to the public domain. The activity of the warriors was the concern of the community as a whole and integrated into political life. To this extent there is, after all, a certain disparity in the status of the three social classes. Why do the warriors enjoy this special position in the *polis*? In isolating the military function which was closely tied to politics, Hippodamos aimed to purify it of all contact with economic life, with that sphere of private interests

which at this point appears as a factor promoting division and conflict among the citizens. Soldiers have no private property. As in Sparta, they are kept at the expense of the state, on the produce of common land. Because their special responsibility, as a functional class, is a sector of activity that belongs to the common or public domain, they can have no private possessions; there must be no private side to their social activity.

The same idea is to be found, a century later, in Plato, where it takes a radical and systematic form. In the Platonic city the differentiation between the classes gives rise to a positive segregation based upon an inherent difference between the members of the various functional classes, which may not intermingle on any level. This is illustrated by the myth of the metals, especially. Each class is associated with a metal. For the best classes, as for the most precious metals, any mixture can only lead to an inferior alloy, to impurity. In this respect Plato indeed appears as the opposite to Cleisthenes since Cleisthenes's intention was to bring about a 'mixture' of all the Athenians in the political sphere, regardless of their diverse professions. Yet Plato's final goal remains the same as that of Cleisthenes: it is to set up a truly united and homogeneous state. But for the philosopher the ideal implies one overriding condition: those who make up the state can be similar, politically, only if they are also similar in their social life as a whole. If rulers and guardians are to accomplish their duties and watch over the general good, everything between them must be held equally and in common. This can be possible only if they renounce all activity of a professional or economic kind and devote themselves entirely and exclusively to their political function. In other words, for Cleisthenes's model of a homogeneous *politeia* to be possible, the political sphere must be purified by the expulsion of all those who are engaged, in any capacity at all, in professional life. In a city where the specialization of functions and professions has divided the social group against itself, the unity and homogeneity of the state can be restored only by turning political activity into a separate specialization, a profession opposed to all others in the sense that, unlike the others, it concerns the public, rather than private, interest.

Thus, even when Plato takes up a position in opposition to Cleisthenes's constitution, he remains in certain respects faithful to the political ideal which inspired it. So it is not surprising to find that he makes the most determined attempt to set out the territorial framework of

the city according to the need for a homogeneous social space. In the 'Laws', Plato first considers ideal legislation, providing for the complete community of women, children, and chattels, and then passes on to what he calls the second or third city, that is to say those constitutions which are close to reality since they take account of the shortcomings in human nature. Thus, in the state described in the 'Laws', instead of the land being developed on a communal basis, both it and the houses are shared out instead: each citizen enjoys his own benefits from a particular allotment. However, so that the city should still be relatively unified, each allotment must not appear to be private property but rather to belong to the city as a whole. It is also necessary that the original distribution should never be changed. Thus Plato comes to describe the local conditions that would be most favourable to the implementation of his plan and specifies how to organize the space of the city-state to conform with his laws. (25) He does not disguise the fact that his plan is a theoretical ideal; in practice it would no doubt be impossible for all the necessary conditions to be fulfilled. This then is a model - and Plato says so explicitly. The model is both geometrical and political. It represents the organization of the city in the form of a spatial plan; he traces the city out on the ground. How does Plato's civic space differ from Cleisthenes's model and in what respects is it similar?

Plato writes that the founder of the city of the 'Laws' first establishes at the centre (ἐν μέσῳ) of the country a circular enclosure known as the Acropolis. Starting from this point he organizes the territory into a regular circle with the Acropolis as its centre. The total area is divided into twelve parts - corresponding to the twelve tribes - so that the yield from each part is equivalent to the yield from every other. Then, still in accordance with the same principle of equality, the 5,040 parcels of land are distributed to the 5,040 households that make up the *polis*. However, each household's allotted part is divided into two parts, one being close to the town and the other in the outlying districts, out towards the state frontiers. As it is not possible to distribute all the half-allotments in a single circle, the founder proceeds in the following fashion: whoever has one half of his allotment directly adjoining the town has his other half adjoining the frontier; starting from the town, whoever has half his land situated on the second innermost circle has his other half situated on the second outermost circle; and so on in such a way that the inner half-parts

that are situated furthest from the town, being midway in the territory, are adjacent to their complementary outer halves. In this way each household will be attached to two half-portions of land whose mean distance from the centre is found to be exactly the same as that of all the others. Finally, the actual urban area is, in its turn, divided into twelve sectors in the same way as the rest of the territory. Each citizen has two dwelling-places: one in the urban area near the centre and the other in the rural area on the outskirts of the territory.

Although Plato's political space resembles that of Cleisthenes in that it is circular with a centre, it is nevertheless different in several essential respects. The central position is longer occupied by the *agora* but by the Acropolis which is consecrated to Zeus and Athena, the patron deities of the city. Thus, in contrast to practical custom in all Greek cities, Hestia has her seat not on the *agora* but on the Acropolis. This shift in the centre is significant. The Acropolis stands in opposition to the *agora* as the religious sector (the *hiera*) to the legal or secular (the *hosia*) and as the divine to the human. As Levêque and Vidal-Naquet rightly point out, Plato's city is constructed around a fixed point, which, being sacred, in a sense anchors the human group to the divine. It is organized on a circular pattern that reflects the heavenly order. It was therefore to be expected that Plato, who was following the path taken by Cleisthenes, but in the reverse direction, should come back to a duodecimal system whose religious significance is unequivocal. Each tribe is allotted to one of the twelve gods of the pantheon. The gods, who possess space, are also the masters of time; each of the twelve months is assigned to a particular god. The divisions of space and time correspond for the good reason that they are both modelled on the divine order of the cosmos.

The political sphere that Cleisthenes had isolated is thus reintegrated by Plato into the overall structure of the universe. But, at the same time, even though the space of the city is loaded with religious significance, Plato makes it perfectly homogeneous and undifferentiated in an even more systematic way than Cleisthenes had done. By means of some ingenious stratagems Plato's legislator sought to make every part of the territory that he divided up exactly equivalent and completely symmetrical in relation to the common centre. It is not only on the political level, as citizens, that the members of the city appear as equal and similar. The division of the land makes them identical and interchangeable in respect of their land-ownership, their way of life, and their

dwelling-place. The city's space is organized in such a way that all distinctions between urban and rural dwellers disappear. Every citizen is just as much a man of the town as a man of the country. At the very moment when, in real life, the opposition between the city and the country was becoming accentuated, Plato, the philosopher, was drawing up a theoretical plan for a city which completely succeeded in producing the 'mixture' that Cleisthenes so much desired. Levêque and Vidal-Naquet have shown that Plato's *polis* is indubitably in many respects the opposite of the classical city. In this sense, however, it is also a true reflection of the latter. It is doubtless in the 'Laws' that the model of political space treated geometrically, which characterizes Greek civilization, is delineated in detail most firmly.

NOTES

1 Pierre Levêque and Pierre Vidal-Naquet, 'Clisthène, l'Athénien' (Paris, 1964).
2 G. Glotz, 'Histoire grecque' (Paris, 1948), 469.
3 Jean-Pierre Vernant, 'Les Origines de la pensée grecque' (Paris, 1962); and see above, pp. 176-89.
4 Cf. Louis Gernet, Sur le symbolisme politique en Grèce ancienne: le foyer commun, 'Cahiers internationaux de sociologie' (1951), 21-43.
5 Cf. J.-P. Vernant, Hestia-Hermès, sur l'expression religieuse de l'espace et du mouvement chez les Grecs, 'Revue française d'anthropologie', 3 (1963), 12-50; and see above, pp. 127-75.
6 Cf. Roland Crahay, Structure politique de l'anthropologie religieuse dans la Grèce classique, 'Diogène' (1963), 53-71.
7 Gernet, Sur le symbolisme, 42: 'Les hommes l'ordonnent à leur gré, amenagement mathématique d'un territoire qui peut être quelconque: le centre est arbitraire, sinon théorique; un foyer se deplace à volonte.'
8 Ibid. 43. M. Finley notes quite rightly: 'Whereas in the Near East government and politics were a function of the religious organisation, Greek and Roman religion was a function of the political organisation,' Between Slavery and Freedom, 'Comparative Studies in Society and History', 4, 3 (April, 1964), 246.
9 Levêque and Vidal-Naquet, 'Clisthène', 23: 'L'organisation du temps se calque sur celle de l'espace: avoir la prytanie, c'est, pour une tribu, à la fois

occuper telle position dans le cours de l'année politique et déléguer 50 des siens au foyer commun qui est le coeur de la *polis*.'

10 Herodotus 5. 66; cf. Levêque and Vidal-Naquet, 'Clisthène', 42.

11 Herodotus 1, 170; Vernant, 'Les Origines', 124.

12 Herodotus 3. 142; Vernant, 'Les Origines', 123.

13 Levêque and Vidal-Naquet, 'Clisthène', 80: 'Le problème est de savoir si l'isonomie clisthénienne et la représentation du cosmos telle qu'elle apparait chez les Milésiens sont deux phenomènes parallèles peut-être, mais sans point d'attache l'un avec l'autre, ou si, au contraire, l'univers mentale qui est celui d'Anaximandre était susceptible d'être compris du fondateur de la cité nouvelle.'

14 Herodotus 1. 170.

15 Herodotus 4. 161. As Levêque and Vidal-Naquet note, Aristotle himself makes the comparison between the reforms introduced by Cleisthenes and the establishment of the democracy at Cyrene, 'Politics' 7. 1319b 18-22; 'Clisthène', 67.

16 Elian 'Hist. Var.' 3. 17.

17 E. Lapalus, 'Le Fronton sculpté en Grèce' (Paris, 1947), 145; Levêque and Vidal-Naquet, 'Clisthène', 88.

18 Lapalus, 'Le Fronton', 148: 'cet exces de logique et de discipline.'

19 Levêque and Vidal-Naquet, 'Clisthène', 146: '(Quant à l'espace et au temps civiques, créés par Clisthène) ils deviennent tout naturellement le reflet des réalités siderales de manière à faire participer le microcosme de la cité au macrocosme de l'Univers.'

20 Aristotle 'Politics' 2. 1267b 28; Hesychius and Photius were later to call Hippodamos a '*meteorologos*', a specialist in celestial phenomena.

21 Cf. V. Ehrenberg, 'The Greek State' (1960), 89.

22 Aristotle 'Politics' 1261a 18 and 24.

23 Ibid. 1261b 1-5.

24 Ibid. 1263b 35-7.

25 Plato 'Laws', 745b-e.

Part Four

Work and Technological Thought

9 Prometheus and the Technological Function

L. Séchan's recent book (2) draws attention to a number of problems raised by the figure of Prometheus and the myths about him. What is the relation between Prometheus and the technology and crafts associated with fire, such as metallurgy and pottery, and technological activity in general? What is the significance of his conflict with Zeus? Is there any connection whatever between his quarrels with the master of the gods and the fact that he works with fire?

With the exception of a very late text of Diodorus's, Greek mythology does not present Prometheus as the inventor of the technique of making fire. In the 'Homeric Hymn' it is Hermes who is described as the first to discover how to kindle a flame. And although L. Curtius and A. Kuhn proposed the derivation for the name Prometheus from the Vedic sanskrit *pramantha*, meaning the turning stick used to produce a flame by friction, this etymology is nowadays much criticized. The name Prometheus, derived from the Indo-European root, *man-*, has the meaning of 'prudent, circumspect', which was a quality that the Greeks already ascribed to him, as opposed to his brother Epimetheus, the clumsy, thoughtless one. It should be noted, however, that there is comparatively little trace of the invention of fire in the accounts of Greek myths, no doubt on account of its very great antiquity. (3) On the other hand, more recent techniques, such as agriculture, stock-raising, the felling of trees, building, the cultivation of vines and fruit trees, weaving, and so on, occupy an important place in the legends of the gods and the heroes.

Yet there appear to have been well-established links, in the classical period at least, between the crafts connected with fire and three associated deities, namely, Athena, Hephaestus, and Prometheus. To judge by the

evidence from religion, myth, and pictorial representations, (4) in Athens this grouping of gods tends to symbolize one general type of activity, that is, what we might call technology, and one social category, that of the artisans, probably because the technologies that employ fire are strongly represented in the ceramic quarter over which these deities preside. But there may be more to it than this. These crafts using fire were, from the start, practised in closed corporations and developed outside the domestic context. They represent the first specialized 'trades'.

But there is nothing in Prometheus's character as thus described to suggest that he is predestined to enter into conflict with Zeus. Thus Séchan appears to accept Wilamovitz's theory that there must originally have been two different Prometheuses: the Ionian-Attic Promethos, the god of the fire industries, the potter and metal worker honoured in the festival of the Prometheia; and the Boeotian-Locrian Prometheus, the Titan whose revolt and punishment is part of the great theme of the conflict between the different generations of the gods. The suggestion, then, is that there was a double origin and that two separate themes became fused: as soon as the god of the technologies dependent on fire is assimilated with the Titan victim of Zeus's wrath, he is seen as the fire thief who is punished as such. This would also account for an opposition of a psychological and moral order which is already discernible in Hesiod: Prometheus is both 'the upright son of Iapetus', the benefactor of humanity, and the creature 'with cunning thoughts' who is at the source of mankind's misfortunes. (5)

The problem of origins is insoluble. But in Hesiod, the most ancient text, the myth about the theft of fire appears in an extremely coherent form and already raises a problem concerning technology. Work is described as the consequence of the conflict between Zeus and Prometheus. The myth certainly has several different meanings. G. Dumézil detected in it elements belonging to the Indo-European cycle of tales concerning the theft of ambrosia, the food of immortality. (6) But one can find other meanings too. In one sense the myth gives an account of the creation of man. It is presented as a separation of men from gods, the two having hitherto not been distinguished. The apportioning of the shares of food which affords Prometheus the opportunity to cheat the gods to the profit of mankind marks the occasion of this separation which entails a new status for the human race. The theft of fire is an expression of, among other things, the new human condition in both its positive and negative

aspects. Fire is precious. Dumézil has indeed shown that in Hesiod it had a culinary significance, and that, far from being as in Aeschylus 'the fire that civilizes', it was as yet no more than 'the fire that cooks'. However, cooking makes it possible for man to feed himself: without it he would starve to death. For Hesiod, Zeus's action of depriving men of fire is equivalent to his hiding their food, their life, βίος, from them. In the two cases the consequences are the same. Once wheat is hidden from him man has to labour on the land which had hitherto provided him with a natural harvest. Similarly, Zeus now keeps natural fire for himself, refusing ever again to send his thunderbolt on earth to the profit of mortals. This is why it is essential for Prometheus, who wishes to save the human race, to procure an artificial fire for it, stealing it away in the hollow of a reed ἐν χοίλῳ νάρθηκι, (7) that is, in the stem of a narthex, following a technique used for transporting fire at that time. Human life is thus preserved by an action that is both an artifice and artificial, involving the substitution of a technique for making fire in the place of natural fire, and a trick played on Zeus, which takes him unawares.

The theft of fire must be paid for. Henceforth there will be no wealth without labour. It is the end of the age of gold in which, in the myths concerning it, the opposition between fertility and work is stressed, since in that age all riches sprang spontaneously from the earth. What is true for the products of the soil also applies to mankind. Pandora, the first woman, is another part of Zeus's answer to Prometheus's theft. Henceforth men will no longer be born directly from the earth; now, through women, they will undergo birth by procreation, and consequently old age, suffering, and death as well.

The connection between fertility and work is expressed in yet another way in the myth of Pandora. The meaning of Pandora is 'she who gives everything'; (8) in one ancient illustration she is called Anesidora, 'she who makes presents emerge from the depths', in other words, the goddess of the earth, who presides over fertility. But at the same time myth presents her as an artifact: she is the work of a craftsman who fashions her out of earth and who is sometimes identified as Hephaestus, sometimes as Prometheus, or sometimes even as Epimetheus. There are painted vases that depict her as emerging from the earth, which has been beaten by mallets, one of which Epimetheus is brandishing. In Hesiod, Pandora is the work of Hephaestus who also forges her a crown of gold showing lifelike depictions of the animals that dwell on

land and sea. Athena has woven her the dress and veil that adorn her and has taught her the art of weaving.

In this context fertility and work appear to be both opposed and complementary. This duality and ambivalence are precisely what characterize the human condition. Every advantage has its corresponding disadvantage, every blessing, its evil. Wealth implies work, birth, death. Prometheus, the father of men, is double: he does both good and evil. His sinister side is embodied in the figure of his brother and opposite, Epimetheus. Pandora is also double in many respects. She is an evil, but a lovable evil. She represents fertility, detests poverty, and is only at ease amid abundance. But, like the drone among the bees, she is at the same time the symbol of idleness and dissipation. After all, when Hesiod describes Strife, eris, in the opening lines of the 'Works', (9) he tells us that she is not single, as one might suppose, but double: there is the good eris and the bad. You could say that, for Hesiod, in this world of duplicity there is only one thing that does not lie - because it implies the acceptance of our human condition and our submission to the divine order - and this one thing is work. Work introduces a new relationship between gods and men. Men renounce hubris, while, to those who work, the gods, for their part, promise riches in the form of 'flocks and gold'. Thus work acquires value of a religious kind: 'those who work become a thousand times more dear to the immortals.' (10)

And no doubt, for a Boeotian smallholder in the seventh century work was essentially limited to agriculture. There was as yet no clear conception of technological activity nor had the figure of Prometheus clearly emerged as a father of all the crafts. Nevertheless Hesiod's originality lies in having used the conflict opposing Zeus and Prometheus to indicate the place of work in this complex religious thought.

Hesiod's Prometheus presents certain psychological characteristics which are worth emphasizing. His moral ambivalence gives him a certain resemblance to a figure such as Loki who also appears both as a blacksmith god and as a daemon who steals the food of immortality. (11) Again like Loki, he is an intelligent god, but even in the form his intelligence takes he is opposed to Zeus. In Hesiod, Zeus represents not only Power and Force (symbolized by the presence of Kratos and Bia at his side), but also Order and Justice, through his marriages with Metis and Themis. In contrast, the intelligence of Prometheus seems to be compounded of calculation and trickery and 'sly thoughts'. His foresight often heralds a trick. More-

over, his cunning provokes catastrophies which eventually rebound against him, to such a degree, indeed, that he often appears imprudent and thoughtless. (12) These psychological contradictions can perhaps be explained not by Prometheus's dual origin but rather by the mixed feelings of fear and scorn that appear to have been aroused by those corporations of metal workers whose status, practices, and secrets gave them a marginal position in society.

Another characteristic of Prometheus in Hesiod's version is also to be found in the versions of Aeschylus and Plato. Prometheus seems to have had the special responsibility of apportioning shares, distributing to each individual his lot. In Hesiod, as arbiter in the quarrel between men and gods, Prometheus's task is to fix the share of each individual. In Aeschylus, when Zeus apportions the various privileges to the various gods and fixes their rank in his empire, (13) Prometheus is the only one to think of the human race and to oppose Zeus's plans. In Plato, the gods entrust him, together with his brother, with the mission of distributing 'suitable qualities' to all the beings of creation. (14) And the significance of this role of distributor becomes clear in the rest of the story as found in Plato. The myth, in the form that Protagoras is believed to have told it to Socrates, is well known. Epimetheus squanders all the available attributes to be apportioned on the animals, without leaving any for mankind. To rectify this mistake, Prometheus steals fire - that is the creative genius of all crafts - from the workshop of Hephaestus and Athena. In this way men come to acquire all the techniques. But they know nothing of the art of politics nor of the military art which is a part of it. For Zeus alone has charge of these and the gods of the crafts can have no share in them. And Prometheus cannot get near the citadel of the ruler of the gods, protected as it is by guards. Eventually Zeus has to send Hermes on a mission to mankind in order to bring them the art of ruling cities, together with a sense of honour and justice. However, the messenger asks for more precise instructions as to how to perform his mission. Is he to proceed like Prometheus in distributing the skills, giving a different one to each different individual? The answer is no, all men must have a share in the art of politics. Plato is probably not being serious. To Protagoras's mind the myth serves to justify the practice of Athenian democracy - praised in former days by Pericles but criticized by Plato - whereby men with trades took part in the government of the state. Protagoras sums up by declaring: 'that is

why your fellow citizens are right to welcome the opinions of smiths and cobblers on public affairs.' (15) It is well known that Plato himself was, in contrast, among those who most strongly emphasized the incompatibility between engaging in the crafts and doing so in politics: practising a trade disqualifies a man from exercising power. One point, however, remains valid to Plato's way of thinking, and even while being ironical he stresses, in the myth of Prometheus, the opposition between the political and military arts and the utilitarian skills. Zeus as sovereign, and protected by his guards (φύλακες), is contrasted with deities whose place is lower in the hierarchy and who are the patrons of the arts and crafts and of work. Expressed in religious terms, this is the pattern of the three social classes, each with its own activity, that pervades the whole of one current of Greek political thought. Now, to Plato's mind, the virtues that qualify the members of the first two classes for their functions of directors and guardians are the basis for a social system where property is held in common. But the psychology of men who practise trades calls instead for an economy based upon private ownership. This idea is not held by Plato alone. In Hesiod we have already noted what appears to be a similar way of thinking, in the opposition that he indicates between two different aspects of fertility: royal justice guarantees collective prosperity for the whole group, while the wealth brought to each man by his own work is, in contrast, a divine favour bestowed upon the individual. (16)

The myth of Prometheus as it appears in Plato expresses a highly developed conception of technology as a social function. This is not surprising. We know that at this period technology had an important role to play in every field. The division of labour in Athens was already far advanced. And men practising trades had contributed to the prosperity of the town and its political life to a degree that Plato, for one, deplored. At the same time, conscious reflection about the *technai* had become common, especially among the sophists. But in Plato's own writings this interest in technology is revealed in the frequent references, in his dialogues, to examples drawn from this sphere. The division of labour is closely analysed and its advantages are used as arguments to justify limiting political power to specialists.

It is remarkable, however, that the importance he thus attached to technology did not affect his conception of man, or rather that it affected it only, so to speak, in a negative fashion. None of the psychological aspects of technology appear to him valuable in human terms. He did

not consider the concentration demanded by work as a special type of human effort, nor technological thought as playing a formative role in human reasoning. On the contrary, he is at pains to separate and contrast technological intelligence and intelligence proper, the craftsman and his ideal of man, just as, in his city, he separates and contrasts technology and the two other functions. This uncompromising attitude explains the inept twist that Plato gives to his theory of the three social classes, in the fourth book of the 'Republic' and is revealed in the clumsiness of the exposition. He has just expounded his idea of the three social classes with their three separate functions and the three types of men which comprise them. In order to explain what justice in the state consists of, he considers three virtues, each in turn. (17) The first, wisdom (σοφία or ἐπιστήμη), belongs to the members of the first class, the rulers: it is precisely this virtue that enables them to perform their function at the head of the city. The same is true of the second virtue, courage (ἀνδρεία), in relation to the members of the second class, the warriors. One would expect that the third virtue would be peculiar to the members of the third class, the artisans and farmers, and that it would also be linked with their particular role. It might be the virtue of work itself, the source of prosperity for the state. But not a bit of it. The third virtue, σω ροσυνη, is not specialized at all. It pervades all the social classes without belonging specifically to any particular one. This astonishing lack of symmetry (18) can be accounted for only by Plato's refusal to grant a positive virtue to those whose social function is to work. It is true to say that Plato denies any human virtue to work and that certain aspects of it even appear to him to be the antithesis of what is essential in man.

This estimate of technology and this restriction of its place in man's life are part of a whole system in which philosophy, ethics, and politics are intimately linked. The discrepancy between Plato's picture and what men were really like in this civilization is sometimes considerable. Whereas it is common for there to be some shift in emphasis between the psychological facts and their literary or philosophical expression, in Plato's case this may well be magnified by the effect of social and political considerations. In order to understand this more clearly it may be useful to refer, among other evidence, (19) to Aeschylus's version of the myth of Prometheus.

Aeschylus, like Plato, has technological activity in general in mind: his Prometheus is not specifically a metal worker or a potter. There is not even any mention

of either pottery or metallurgy in the long list of techniques that he boasts of having given to men. The fire that he stole is the master of all the crafts, διδάσκαλος τέχνης πάσης, and he himself is the father of all techniques. He declares, 'Say the word, and you will know everything. All the skills come to mortal men from Prometheus.' (20) However, in the 'Prometheus Bound' Aeschylus shows no signs of having any reservations about technological skill. He draws no opposition between pure science and the useful arts. When Prometheus lists the blessings he has provided he does not differentiate between the science of numbers, the art of training horses, and the exploitation of mines. Indeed, Aeschylus expands the role of technology in human life. In their specifically human aspects intelligence and reasoning belong to the technical sphere. What marks the stages of their development is the progressive discovery of the different arts and crafts:

> In the beginning, they [men] saw without seeing, listened without hearing and, like images in a dream, they lived through their long existences in disorder and confusion. They knew nothing of sunny brick-built houses, nothing of woodwork, they lived beneath the ground like agile ants, down in caves shut off from the sun.... (21)

It is significant that Prometheus, the deity of technology and the father of all the arts and crafts, should become the symbol of man himself. What is even more important is that Aeschylus has stressed the following features: man's original weakness - both intellectual and material - and his painstaking attempts to transform himself from the child that he started as into a creature endowed with thought and capable of organizing and directing his life by work.

In contrast with Prometheus there is Zeus, he who only manifests himself through the catastrophies that he unleashes or the threats that he has his ambassadors deliver, or who acts through his two acolytes, Κράτος and βία, the symbols of a power so absolute that it lies beyond justice and beyond intelligent understanding. In 'Prometheus Bound' Zeus represents the ancient sovereign deity of an age gone by and, at the same time, the tyranny of a political power that is not ruled by law. And he also represents everything inhuman in the world, everything that crushes mankind or thwarts his laborious efforts and his works.

But the Δεσμώτης was only one part of the complete tragedy. (22) Séchan, following others, demonstrates most convincingly that, in the course of the trilogy there

was a transformation in the character of Zeus who became amenable to reason and justice, while Prometheus mended his ways and renounced his excessive taste for 'revenge'. In the end the two gods become reconciled.

The theme of the quarrel and reconciliation between Zeus and Prometheus has many meanings in this tragedy. It is significant on every level of human experience. In it a new religious concept and a new morality take shape. For Aeschylus it is a further declaration of faith in the city, in democracy, in the new political equilibrium between conflicting social groups. But as well as all this, a new aspect of human nature is starting to emerge. Through the character of Prometheus the tragedy expresses the growing importance of technology for man. In a literary form it emphasizes the inner aspects of man's technological activities, indicating the psychology behind them.

We have noted the various aspects and stages of technological activity as portrayed in three versions of the same myth. In the context of Hesiod's religious thought, work is portrayed as an enforced activity; the emphasis is placed upon human effort guaranteeing divine blessings, prosperity, and fertility to the individual. In Plato, the idea of human skill becomes a distinct one and the place of technology as a social function is now clearly defined. But in the context of this philosophical thought, which betrays a refusal to accept certain social and human changes, art is disparaged as compared with nature, and the psychological aspects of technological activity are ignored or deliberately avoided. In Aeschylus one senses a different moral and social attitude and with it the possibility of integrating work in the concept of man more successfully, for there are certain features in the picture he paints of man that stress the importance that technology has now acquired.

Nevertheless, on the whole the idea of technological activity is still ill-defined and not systematized. Even in Aeschylus there is nothing to indicate any interest in the motivation for work - no doubt because such motivation remains purely external. Man's reactions to technology and work, the opportunities they provide for creativity and the part they play in bringing men into contact with one another, are not expressed. The boundary between technological knowledge and work is indistinct. The idea of work as an important social function, as the type of activity that is specifically human, does not emerge. There is no clear idea of what defines the domain of technology as such.

Many authors have noted the disparity between the level

of technology and the attitude towards work in ancient Greece. Despite the place technological skills had already acquired in men's lives and the considerable changes in mental attitudes that they appear to have introduced, technological activity and work are very seldom considered to have any moral value. However, it should be added that as yet the psychology associated with them was not clearly distinguished either, and they had not acquired the character of highly organized human behaviour that they have today.

NOTES

1 'Journal de Psychologie' (1952), 419-29.
2 L. Séchan, 'Le mythe de Promethée' (Paris, 1951).
3 Phoroneus, the king of Argos, is the only hero to appear in connection with fire technology (Pausanias 2. 19, 5).
4 Cf. Séchan, 'Le mythe', 4, with the corresponding notes, and note 59 of chapter 1.
5 Ibid., 13 and 14.
6 G. Dumézil, 'Le festin d'immortalité' (Paris, 1924), chapter 4.
7 Hesiod 'Theogony' 567; 'Works and Days' 52.
8 We are aware that Hesiod suggests a different etymology: the gift of all the gods, 'Works' 81-2. However the connection with Anesidora can leave no doubt about the true meaning of the name.
9 Hesiod 'Works' 11-17.
10 Ibid. 300. Fertility is also mentioned in Hesiod as depending upon the just exercise of royal sovereignty. But this is fertility in its most collective form, cf. 'Works' 225 and ff. The prosperity that work ensures is, in contrast, a divine favour granted to the individual. We shall again come across this aspect of individualization when we consider Prometheus as the apportioner of shares.
11 Cf. Dumézil, 'Le festin', 94.
12 In this sense, Prometheus, the foreseeing one, and his twin brother, Epimetheus, the thoughtless one, appear as two sides of a single character.
13 Aeschylus 'Prometheus Bound' 228 ff.
14 Plato 'Protagoras' 320D and ff.
15 Ibid. 324c.
16 Cf. above, n. 10.
17 Plato 'Republic' 428a and ff.
18 Even ἀνδρεία ends up by losing all its specific attributes, in a generalized conception of virtue. This

is possibly a third example to add to the 'similar modifications to two parallel traditions (retouches homologues de deux traditions parallèles)' that Dumézil emphasized in Zoroastrianism and in Cicero ('Journal de Psychologie' (1950), 449). But in Plato it is true that there are more obvious social and political reasons for the change.

19 Attention has been drawn to the bias towards technological research among the Ionians in a whole current of Greek medicine and in a contemporary of Plato's such as Archytas, cf. P.M. Schuhl, 'Essai sur la formation de la pensée grecque' (2nd edn, Paris, 1949), p. xx and xxi. The importance of technology also finds expression in religions, both through the ritualization of certain techniques, and through the myths, which, by connecting the origin of the technical skills with the gods or the heroes, bestow a certain value upon man's inventive faculties.

20 Aeschylus 'Prometheus Bound' 506.

21 Ibid. 447 and ff.

22 Apart from 'Prometheus Bound', the trilogy also included a 'Prometheus Unbound', Λυόμενος, and a 'Prometheus, the Fire-bearer', Πυρφόρος.

10 Work and Nature in Ancient Greece

The analysis of work in ancient Greece has usually been approached from two related points of view: the depreciation of work and the limitations of technological thought. (2) Our own study has a different aim. Considering work as a principle kind of behaviour, (3) which is today strongly organized and unified, we have asked ourselves what form it took in the ancient world and what was its role in men's lives and in society. How was it defined in relation to other human activities? What activities were considered, more or less, as work, and by reason of what aspects and what psychological characteristics?

We must begin with a point of terminology. In Greek there is no term that corresponds to 'work'. A word such as πόνος is applied to any activity involving laborious effort, not simply to productive tasks that are socially useful. In the myth of Heracles the hero has to choose between a soft life of pleasure and a life devoted to πόνος. And Heracles is no worker. The verb ἐργάζεσθαι seems to apply especially to two sectors of economic life - farming, labouring in the fields, τὰ ἔργα, and also (in complete contrast) to financial activity ἐργασία χρημάτων, earning interest from capital. But this verb also has a definite application to activity in general: the ἔργον of each thing or being is the product of its own particular excellence, of its ἀρετή. The words derived from the Indo-European root *tek-* take us in a different direction. They refer to something produced - by an artisan, for instance - to an operation which is a kind of ποιεῖν, to technological manufacture. This is opposed to πράττειν, the natural activity whose end is not to make an external object separate from the act of production, but to perform an action with no goal other than that of carrying it out for its own sake. (4) Thus, despite the two uses that we have mentioned, the word ἔργον

can be used to mark the contrast between the 'accomplishment of the πρᾶξις and the product of the creative work of the artisan. There is a text in Plato's 'Charmides' which illustrates this point. (5) Critias, no doubt following the sophist Prodicos, (6) is explaining the difference between doing and making, πράττειν and ποιεῖν. Now the type of action referred to by the term ἐργάζεσθαι is connected with the domain of πράττειν; it is opposed to ποιεῖν, just as ἔργον is contrasted with ποίημα. And the fact that the artisans are called craftsmen, δημιουργοί, does not conflict with these remarks, for in Homer and Hesiod this term did not originally refer to the artisan as such, as a 'worker' or 'producer'. It defined all activities pursued outside the framework of the οἶκος, for the benefit of a public, δῆμος. It referred to artisans - carpenters and blacksmiths - and bards, but equally to diviners or heralds who did not 'produce' anything at all. (7)

Such linguistic evidence leads us to suspect that among the activities that in our view constitute the single complex of working behaviour there were different levels, multiple aspects, and even oppositions. Of course the absence of a term that is both specific and general does not necessarily prove that no true concept of work existed. On the other hand, it does underline the existence of a problem that justifies the psychological inquiry we have undertaken.

Hesiod's 'Works and Days', written in the seventh century and sometimes considered to be the first poem in praise of work, provides us with evidence for the psychology of the activity of farming. We have used the term 'farming' but even this term is too wide. H. Jeanmaire, (8) noting the distinction Xenophon makes between 'land for sowing' and 'land for planting', has drawn attention to the opposition in Greece between, on the one hand, the cultivation of fruit trees and, on the other, that of cereals such as wheat and barley, combined with a little stock-raising and the exploitation of a small area of woodland. The latter is Hesiod's kind of agriculture. The opposition is not simply technological and economic. These two types of farming reveal two very different kinds of experience in man's relationship with the soil. The cultivation of trees continues the tradition of an economy based on gathering: the produce appears in the form of gifts of nature, blessings that are attributed to the gods who dispense riches - or as the Greeks would say, πολυγηθεῖς - and an abundance of joy: these are the *Horai*, the *Charites*, and the *Oinotropes*. Their function is to make

the branches grow and the fruit swell, following the rhythm of the seasons. Man shares in this rhythm not so much by his labour as by means of the recurring cycle of festivals and feast days which effect a communion between him and the gods. However, as Jeanmaire also points out, Hesiod mentions the Charites and the Hours on only one occasion in his poem and when he does so it is not to praise them. It is they who have adorned Pandora with their graces, Pandora, the trap laid for men by the gods, in revenge for the theft of fire. The inclusion, at this point, of the story of Prometheus is by no means irrelevant to this poem about agricultural work. Not only does it account for the need for man to sweat in order to make the earth bring forth its yield, but it also sets far back in the mythical past of the age of gold the picture of the earth's spontaneous generosity as embodied by the deities of growing plants. The earth's gifts must now be worked for. And Pandora (9) - representing all the gifts of the earth - becomes, for men, the image of an evil that lurks hidden beneath dangerous attractions. She is the woman whom Hesiod compares to the drone among the bees, symbolizing idleness and the waste of hard-won goods. (10)

Hesiod's earth is the kind that has to be ploughed. In Greek the same word, ἔργα, means both 'field' and 'work'. Demeter is the deity of land like this that is cultivated as opposed to uncultivated or naturally fertile land. In representations of this divine power there is one aspect that refers to human activity and effort. (11) One speaks of the works of Demeter. And in the ritual expression, Δημήτερος ακτή, the wheat of Demeter evokes sometimes the ears of grain which must be winnowed and threshed on the sacred threshing floor of the goddess, (12) and sometimes the grain to be ground under the millstone. (13) In contrast to the deities of vegetation, Demeter's function is not so much to distribute her gifts as to guarantee a regular order in her dealings with men. When Hesiod's farmer, for his part, contributes through his hard work to the growing of wheat he does not feel that he is applying a cultivation technique to the soil or that he is practising a trade. He confidently submits to the harsh law which rules his dealings with the gods. Work for him is a form of morality which may be expressed in opposition to the ideal of the warrior. It is also a form of religious experience that is strict and preoccupied with justice. It does not manifest itself in the excitement of festivals but imbues his whole life with the strict necessity of accomplishing all his daily tasks. In this law of the fields, πεδίων νόμος, presented in the 'Works', it is impossible to separate the theological from

the moral elements or these from the treatise on agriculture. These different aspects are all combined in the same punctilious ritualism. Each thing must be accomplished at the appointed time and in the right way. The sowing must be done when the crane is calling: it is then that the farmer, his hand upon his plough-share, prays to Zeus Chthonian and Demeter so that the grain shall become heavy as it ripens. But the day ought not to be the thirteenth from the beginning of the month, which is right for planting, just as the eighth is right for castrating pigs and bulls, and the seventh from the middle of the month is right for casting the sacred grain of the goddess upon the threshing floor. (14) Whoever, knowing this, has not been sparing in his efforts and has spent himself 'without offending the Immortals, paying attention to the heavenly signs and avoiding every error' (15) can place his trust in divine justice. His barn will be full of grain. Such is the psychological aspect of work on the land, in Hesiod. It is not a particular type of behaviour aimed at producing something of use and value to the group through technological means. Rather, it is a new form of religious experience and behaviour. So far as the cultivation of cereals is concerned, it is through his strictly regulated efforts and hard work that man may enter into contact with the divine powers. Through work, men become a thousand times more dear to the Immortals. (16)

The peasant life that Hesiod describes is that of a small property which the farmer runs himself, devoted to his land. The only allusion the poet makes to urban life is a warning against the temptation afforded on wintry days by the blacksmith's forge where one can waste time gossiping in the warm. (17) This is archaic Greece at a stage before the establishment of the city-state. However, even during the classical period the Greek economy remained essentially agricultural. And, except in the Dorian cities dominated by the warrior class, the small peasant holding remained the general rule. We know that at the time of the fall of the thirty at Athens, only 5,000 of the 20,000 citizens did not possess a country property. In certain parts of Greece, possibly even in Attica, the οἶκος, the family property, remained inalienable until the end of the fifth century. (18) Land, with all its religious connotations and the special links binding it to its owner, (19) was a quite different type of possession from money. It was only with the greatest difficulty that it eventually became integrated into the economic system based on currency. It is therefore not so very surprising that for a long time psychological

attitudes toward agricultural work continued to remain very similar to Hesiod's. (20)

In the 'Oeconomicus' Xenophon is concerned with ways of increasing the value of a patrimony by selling for a high price land that has been bought cheaply and improved. But even for him farming on the whole does not appear as a professional type of activity. Hesiod used to say: the gods have established that there has to be sweat before merit, ἀρετή. For Xenophon too, agriculture is first and foremost what makes it possible to exercise a type of ἀρετή. Ability and gifts are not enough; they must be put to work: ἐργάζεσθαι. There is no virtue that is not practical. (21) Thus, in contrast to a soft and carefree life of idleness, there is an active virtue compounded of energy, initiative, and industry: ἐπιμέλεια. But in order to understand the psychological attitude toward this 'enthusiasm for work' (22) we must note that it appears in opposition to the activities of the artisans which force the working man to lead a house-bound life, seated in the shadows of the workshop or spending the entire day working by the fire, and which thus debilitate the body and weaken the spirit. (23) Seen as the antithesis to the work of the artisans, farming now becomes associated with the warrior activity when it is a question of defining the sphere of virile occupations - the work, ἔργα, in which neither fatigue nor effort, πόνος, (24) is feared. Cyrus declared to Lysander: 'I never yet sat down to dinner when in sound health, without first working hard at some task of war or agriculture, or exerting myself somehow.' (25) Moreover, if in time of war the farmers and artisans are divided into two groups and asked what they want to do, those who cultivate the land will decide to do battle to defend it, while 'the artisans decide not to fight but, as their upbringing has accustomed them, to stay quietly at home without toil or danger: μήτε πονοῦντας μήτε κινδυνεύοντας .' (26)

Agriculture is not considered as a trade any more than making war is. Has one even the right to call it a τέχνη? τέχνη involves specialized knowledge, apprenticeship, and secret methods to ensure success. There is nothing of this kind in agricultural work. The only knowledge necessary is that which any man can acquire on his own, by looking and thinking. (27) No special apprenticeship is necessary. (28) While 'those who practise the other arts hide more or less all the essential secrets of their art',((29) the land 'has no special tricks but simply, and without disguise or deceit, reveals what she is capable of doing and what she is not.' Generously, the land reveals all her secrets to us. (30)

Xenophon's descriptions of the sowing, weeding, harvesting, threshing, winnowing, and of the cultivation of fruit trees, are all aimed at showing us not human skills, but 'nature' at work in these operations. For instance, where do we get viticulture from if not from the vine itself? By climbing up trees, the vine itself teaches us to give it a support; by spreading its leafy shoots when the grapes are still young, it teaches us to shade the exposed parts; by shedding its leaves, it teaches us to pick them off so that the fruit can ripen when the sun has become temperate. (31) So how is it that not everyone is equally successful at farming? It is not a question of 'knowledge or ignorance', (32) of 'discovering some ingenious method of working the land', but, as in affairs of war, it is a matter of effort and vigilance: ἐπιμέλεια. (33) Since every kind of technical skill is irrelevant, a man's farming reflects his own worth: 'Just because she conceals nothing from our knowledge and understanding, the land is the surest tester of good and bad men. For the slothful cannot plead ignorance, as in the other arts.' (34)

In contrast to the artisan's τέχνη, whose power is all-important within the narrow limits within which it operates, agriculture and war share this common feature that man is conscious of his dependence upon the divine powers whose co-operation is necessary if he is to be successful. The power of the gods is 'as absolute where work in the fields is concerned as it is for war.' (35) It would be unthinkable to undertake any military enterprise without first consulting the gods through sacrifices and oracles. Similarly, no man would undertake any agricultural task without having conciliated them. 'Wise men worship the gods so that they will watch over their fruits and cereals.' (36) This worship is not something tacked on to farming from the outside: cultivating the land is in itself nothing but a form of worship in that it establishes the most just of dealings with the gods. 'The earth, being divine, teaches justice to those who are capable of learning. It is to those who cultivate (or worship, θεραπεύουσι) her best that she grants in exchange the greatest riches.' (37)

What is the significance of this opposition between agricultural work and the trades of the artisans that Xenophon stresses so strongly? The point is that they belong to two different fields of experience which are to a large extent mutually exclusive. The activities of the artisan belong to a sphere in which there is already a certain amount of positivist thinking in Greece. Agriculture, on the other hand, is still integrated within a

complex of religious representations. (38) The technological and instrumental side of work does not figure in it, for the gap between the human effort and its results is, whether one thinks of the time or the techniques involved, too great. The essential achievement depends on what E. Dupréel has called 'the collaboration of an interval', (39) which involves religious behaviour. Thus work on the land does not take the form of an implementation of effective procedures and rules ensuring success. It is not seen as acting upon nature in order to transform it or adapt it to human ends. Even if such a transformation were possible it would be an impiety. (40) Work on the land is a participation in an order both natural and divine that is superior to man. It is because of this religious context that the human effort expended in farming takes on a special significance. Undertaking the set task and working hard and tenaciously at it is valuable and prestigious in so far as it establishes a relationship, a kind of reciprocal bond, with the gods. Thus, corresponding both to divine necessity and to divine justice, work appears as merit in its most general sense. This theme acts as a counterbalance to the assertion of the superiority of pure thought over action, in Greek moral speculation. (41)

In this type of agriculture there is as little evidence of the economic aspect of work as there is of its instrumental and technological sides. Since the οἶκος is supposed to provide for all the needs of the family, self-sufficiency remains the ideal for peasant life. (42) The fruits of the earth that are to be consumed on the spot are set in opposition to the economic values of commerce. In this respect, too, agricultural work establishes a personal contact between the farmer, on the one hand, and nature and the gods, on the other, rather than a commercial relationship between men. (43)

Nevertheless the very insistence with which Xenophon emphasizes these differences leads one to suspect that they were challenged in other circles. In any rational system of political thought agriculture is considered on the same level as other occupations, so far as the division of labour is concerned. Once stripped of its religious privileges, work on the land immediately loses its special dignity. The human effort involved is no longer felt to be ἀρετή. It falls into the category of servile occupations demanding nothing more than an outlay of physical energy. (44) These two opposed ways of thinking about the subject of farming are perhaps most noticeable in the Greek concept of the political community. At times the farmers and artisans form two distinct, or even

opposed, classes. At others they form a single class contrasted with the warriors and magistrates. In peripatetic circles this ambivalence eventually results in contradiction. Agriculture is sometimes described as the type of activity 'that is in tune with nature' in which man may express his active excellence in accordance with justice. On other occasions it is seen as an activity which is altogether contrary to the nature of a free man, a 'servile' occupation just like the trades of the artisans. (45)

There is one very curious figure in Greek legend. We catch a glimpse of him in one of the Homeric poems and in one brief reference in Plato. He is Margites, the man who knows all the trades but practises none correctly. It would be interesting to know more about him. There is a hint of the idea that, in certain spheres of activity, skill demands strict specialization. (46) G. Dumézil has picked out the legendary themes that concern such manufacturing activities. (47) Here one finds artisans intervening in a decisive way in the organization of the world. By producing the works of their particular trades, they divide among the gods the spheres of activity and the privileges which correspond to each one's particular functions. In Greece, the Cyclops have this role. (48) These figures bring to mind corporations such as those of the Telchines and Dactyles. (49) These were metalworkers whose activities were more magical than technological, and who, on occasion, acted as warriors. But the point is that these legendary figures belong to a bygone age. They are peripheral beings, wanderers, roaming the mountains and forests. (50) Artisans, on the other hand, are orderly folk, sedentary town dwellers. (51) They can only be imagined plying their trades within the framework of the city. It was because of the division of labour that took place in the city that two different but positive ideas about the τέχνη developed. First, it was a specialized activity contributing - along with others - toward a balanced social order; second, it provided a set of rules for success in each of the various spheres of activity. In this respect the figure of Margites is significant. Nobody expects him to set the world in order, just so long as he sticks to one trade so that he can perform it correctly. Whereas in the psychological attitudes towards agriculture there is a marked continuity persisting since archaic times, where the work of the artisans is concerned, the city makes a break - just as marked - with its legendary past.

These comments can be illustrated by a point from social

history. During the classical period there is no kind of religious organization corresponding to the professions. There is no intermediary between the artisan and the city, no corporations, no brotherhoods. This helped to ensure that 'trades' were viewed in a purely rational light, that is, as economic and political functions.

For the ancient Greeks, the city was no abstract entity. They spoke not of Athens but of οἱ Ἀθηναῖοι. (52) To them a city was a number of citizens who were linked by personal ties of friendship and pursued their activities through this κοινωνία. In such a framework, what place did trades have? There were no doubt quite striking disparities in the estimate of the value of the various social categories. But these differences appear to relate rather to the moral value attached to the various artisan occupations and to how far they were compatible with political functions. It does seem possible to make some fairly general observations about the place of the trades in the system of human activities in the πόλις.

In a way, what we call the division of labour appears to be the basis of the *politieia*. Men band themselves together because they need one another, to complement one another. The city is established upon conscious opposition to the ideal of individual or family self-sufficiency. (53) We find a very clear expression of this theory in Protagoras. The sophist explains how the various species of animals were endowed by Epimetheus with different δυνάμεις, some with strength, others with speed, others with fertility, and so on, so that they all had an equal chance of survival. (54) The situation of the human race, which was left out of this distribution, was critical. It appeared doomed to extinction. Prometheus therefore decided to steal the technological δυνάμεις from the gods and to present them to the human race. He distributed them as his brother Epimetheus had distributed attributes to the animals, giving a different ability to each individual. So it is that men are unique in possessing the technological intelligence that enables them to make clothes, shoes, houses, etc., and they are also unique in that they are unable to survive unless they exchange their products and services among themselves. Is not this Protagoras's way of declaring that work is the most essential social link and that men are citizens by reason of this network of complementary professional activities which unite them? It would be tempting to think so, especially since the declared intention of Protagoras is to justify the 'democracy of artisans' - the worst kind from Plato's and Aristotle's points of view - which

constitutes the assembly of cobblers, fullers, blacksmiths, and potters. (55) However, one remark must set us on our guard. Neither Plato nor Aristotle seems to disagree with Protagoras about the role of the division of labour. In the 'Republic' Plato is perhaps even more explicit than Protagoras: 'Society is born from the fact that each of us, far from being self-sufficient, has on the contrary need of a great many people.' (56) And since each man is by nature different from his fellows, each man must specialize in a different task. Thus, 'men will share with their fellows what each of them has worked at.' (57) The aim of their political association will be achieved. So the city is founded upon this division of tasks. But does this mean that the relationships of men in their work constitute the links between citizens? For Protagoras, as for Plato and Aristotle, quite the contrary is the case. While each man's profession defines what differentiates him from his fellows, the unity of the *polis* must be founded upon something which has nothing to do with the professional activities. The specialization in tasks and the differentiation of trades are opposed to the political community of citizens who are defined as equal, ἴσοι, peers, ὅμοιοι, (58) one might almost say 'interchangeable'. In Protagoras this is expressed in the figurative language of myth. Although men possess all the technical skills they cannot yet establish a political society. They lack the essential factor that can unite them with the bonds of φιλία, (59) and this neither Prometheus nor Hephaestus nor Athena can give them because Zeus alone possesses it: (60) Αἰδώς and Δίκη, virtues that are both moral and political. Hermes is ordered to bring them to mankind. But, in distributing them, he must proceed in a manner quite contrary to that of Prometheus. He must not give a different ability to each individual but the same to all, equally and indiscriminately. Aristotle develops the same theme in a rigorous form. The unity of the state implies total reciprocity between equals. He adds, 'as if cobblers and carpenters exchanged their work instead of the same persons always performing the same tasks.' (61) But this example is only chosen to underline by its absurdity the incongruity, or rather the opposition, between the sphere of economic activities and those that really constitute the city. Neither cobbling nor carpentry can establish these 'reversible' relationships which characterize the links proper to politics. Having made a distinction between the decision-taking and the warrior elements of the *polis*, Aristotle immediately points out that the same citizens pass alternately from one role to the other, just

as they command and obey alternately. In contrast, farmers and artisans have to remain within the limits of their own speciality so as not to negate the inferior type of role that is theirs by virtue of their trades. (62) Aristotle concludes:

> For instance, if one man were a carpenter, another a farmer, another a shoemaker ... and the whole population numbered ten thousand, but nevertheless they had no mutual dealings in anything else except such things as exchange of commodities and military alliance, even then this would not be a state. (63)

In saying this he is in agreement both with those like Protagoras who supported government by the *demos*, and with the exponents of rule by the 'best' men. In both cases activities connected with the trades, which are limited to the economic sector, lie outside political society. But for the advocates of the *demos* the artisans can have access to this superior role outside their profession; (64) whereas for their opponents the contrast is so profound that participation on one level automatically disqualifies for participation on another. These positivist ideas about the organization of professional activities in the city do not give rise to the concept of work as the single, great social function, but to that of a plurality of professions that differentiate those who pursue them from one another.

Thus, the expression 'division of labour' should not be applied to the ancient world except with certain reservations. It is psychologically anachronistic in that it implies that a trade is conceived in relation to 'production' in general. The ancient Greeks did not see a trade from this point of view. For them, it had two aspects. It implied a special δύναμις on the part of the person who practised it, and a χρεία, a particular need, on the part of whoever made use of the product. The division of tasks arose from the contradiction between these two aspects of a trade. Each man has, on the one hand, many needs, but, on the other, limited capabilities. So the division of tasks was not seen as an institution whose purpose was to maximize the productive efficiency of work in general. It was a necessity directly resulting from the nature of man who can do one task all the better if he he concentrates on it alone. Not one of the texts commending the division of tasks conceives it to be a method of organizing production so as to obtain more from the same quantity of work. Its advantage is rather that it allows the various individual talents to be exercised in the appropriate activities and thereby to create products that are as good as they possibly can be. (65) Ulysses,

in the 'Odyssey', says: 'To each man the activity that suits him' (66) - a statement that is echoed not only in the practical remarks of a man such as Xenophon but also in the analyses of theorists such as Plato and Aristotle. (67) In the 'Cyropaedeia', Xenophon's comments go quite far, beyond the differentiation of the trades themselves to that of tasks within a single workshop:

> In small towns the same workman makes wooden beds, doors, ploughshares, tables; sometimes he even builds houses as well.... But in large cities where each man finds many buyers, a man needs only one trade to support himself. Sometimes one does not even need a complete trade: one man makes shoes for men while another makes them for women. One man cuts while the other simply sews the shoe. One man only cuts out clothes while another sews the various parts together. (68)

Here, as in Plato, (69) we seem to have an increasingly technological emphasis. The distinction drawn between the different types of operation in the making of a single product seems to imply a grasp of the social and technical significance of the division of labour. But, in fact, it does not. Xenophon never manages to grasp the idea of the division of labour as a way of distributing tasks for the sake of productivity. He sees it only from the point of view of improving the product by perfecting the abilities of the artisan.

These technical abilities that the division of tasks aims to perfect are presented as natural qualities. When Protagoras places the technical knowledge of human beings on the same level as the δυναμει of the animals, when he compares the order of the trades with the balance of the species in the cosmos, it is not a mere stylistic figure of speech. Is it not the case that one of the most important methods of dividing tasks is based on the biological opposition between men and women? Xenophon expresses the theory as follows: 'Right from the start the deity adapted the nature of woman to the work and tasks of indoors and man's nature to those of outdoors.' (70) Aristotle theorizes about another opposition equally fundamental and no less 'natural': the occupations of free men demand prudence and reflexion, ρονησι ; the tasks of slaves, passive qualities of obedience. (71) The same principles underlie the differentiation of the trades of the artisans. For Plato the task of each man with a trade is 'that to which his individual nature predestined him.' (72) In the potter's workshop one man models the clay while another paints: the two different δυνάμεις are associated in order to satisfy a single need on the part of the user. (73)

Thus the artisans' professional qualities are simply an extension of their natural qualities. If a distinction is made between the two, it is simply so that the activities can be brought into line with certain needs which are also natural. Since the phenomenon of the division of tasks is affected by two hierarchies, one involving abilities and the other demands, it cannot be defined simply in its own terms. In the organization of activities within the city there is not, at any point, any suggestion that human effort might be considered as a function that creates a social value, that is, in terms of productivity. Because the ability of the artisan takes second place to the demands of the user, a trade becomes a service; it is not considered as work.

However, the object that the artisan produces through his ποίησις is not natural. No more are the manufacturing processes that mark out the rules of each specialist's τέχνη. Antiphon emphasizes the contrast between the product of the artisan and that of nature: 'If one buried a bed in the ground and if from its decay an offshoot were able to sprout, it is not a bed but wood that would be produced.' (74) But this opposition is only relevant to a limited aspect of the manufacturing activity: human products result from an intelligent final cause, whereas natural processes come about by chance and without design. But in other respects the operation performed by the artisan remains contained within the framework of nature: it is not seen as an artificial means to 'transform nature' and establish a human order.

The τέχνη aims, in effect, to produce a εἶδος, such as health or a house, in a certain matter. Such a production presupposes the exercise of a δύναμις for which the τέχνη in a sense provides the method of use. For Descartes, the artisan knew his trade if he understood how his machine worked. But a τέχνη consisted in knowing how and when (75) to use a δύναμις - where there is no distinction between a natural force and the use of a manufactured tool. In this connection, the terms used to define the exercise of a τέχνη are revealing: the instrument must be stronger than the elements to which it is applied; and it must make it possible to be in control ἐπικρατεῖν. (76) A τέχνη is defined by its limitations as much as by its power. When technological thought is like this, there is no conception of indefinite progress. Each skill is, on the contrary, restricted from the start, within a fixed system of essences and powers. It is circumscribed within the limitations established by the number and powers of the instruments which naturally belong to it, and by the article which it is its function

to produce. (77) The true τέχναι are limited in number, as they are in scope. Only a multiplication of men's needs could allow them to increase. Now, men do not have an infinite number of needs. And once these are provided for technical skills no longer aim to satisfy needs but to procure pleasures. But since the effect that they now produce is not their natural aim and limit, they no longer produce anything real, only illusions, imitations. (78) Thus, it is only within a restricted framework that art is powerful and effective. And, within this framework, it is, in fact, 'natural'. Contrary to the view of Espinas, (79) the work of the artisan does not fall within the order of 'human manufacture' in which man, becoming aware of his opposition to nature, attempts to humanize it through artificial devices which he can continue to perfect indefinitely. Instead, in his work the artisan sees his own activity becoming 'natural'. (80) The 'artificial' sphere is a different matter: this includes activities that only produce appearances, as do the professions of illusionists such as sophists or bankers. The work of artisans was opposed to agriculture which was felt to be more natural. Now we find that it too is integrated in the order of nature and is contrasted with moneymaking as φύσις is to νόμος. (81) However, between φύσις and νόμος there is no place for the production of a work, which, while being entirely real, could be considered purely human. Man is not yet sufficiently distinguished from nature for human activity to be dissociated from what is natural without thereby being placed in the category of what is merely conventional.

There is a very close connection between this natural aspect of the product and the fact that the activities of the artisan are considered as a service rather than as work. When considering a product, the ancient Greeks were less concerned with the process of manufacture, the ποίησις, than with the use to which the article was to be put, the χρῆσις. And, for each piece of work, it is this χρῆσις that defines the εἶδος that the worker embodies in matter. In effect, the manufactured object, like living creatures, is subject to final causes. Its perfection lies in its adaptation to the need for which it has been produced. (82) Thus, for each manufactured object, there is a kind of model which the artisan must consider as a norm. This ειδος is not a human 'invention' which the worker could create, or even alter, as he fancied. On the contrary, the artisan must conform to this necessary model as far as possible, either working with it always in mind or else relying in this matter upon the user who is better placed than he to know the object's true εἶδος,

since the user alone has the χρῆσις of the thing. Aristotle says that, as a judge of his own work, the ποιήσας is inferior to the user, (83) for the worker's act of manufacture relates to the means while the question of the ends is quite beyond him. (84) Thus, when a flute is made, the flute-player gives the orders and the manufacturer obeys him. (85) Plato is even more explicit. (86) There are three kinds of art in relation to every object - using it, making it, and imitating it. They belong, respectively, to the user, the artisan, and the painter. As with all other imitators, the painter's knowledge concerning the article is limited to its external appearance and this he manipulates through 'artifice', in order to create an illusion of reality. The artisan does indeed make the article, but, being an artisan, he does not fully understand its εἶδος, that is, its end purpose. Only the user can achieve this fully.

If the εἴδη of manufactured articles are conceived as somehow 'natural', separate, and above the workmen, the artisans have no more than a role of an intermediary - they are the instruments through which an object acquires value in use. For the user, they are nothing more than tools destined to serve his various needs. The ποίησις is thus seen as an instrumental type of operation. When Aristotle uses the terms ποιητικὰ ὄργανα, he is referring to that which is capable of 'producing' something: they include tools, and, on almost the same level as these, the artisans themselves. (87)

In this sense, the ποίησις is defined by contrast with the πρᾶξις. In acting, a man acts for himself; he does not 'produce' anything apart from his own activity. The sphere of πρᾶξις excludes all technical operations performed by men with trades. And the πόνος of the artisan, in his work, cannot acquire the value of an active virtue as it did in the case of the farmer; on the contrary, this πόνος is seen as submission to an order foreign to human nature, that is, as pure constraint and servitude. (88)

In Greece, we do not find one single type of behaviour, namely, work, in all spheres from agriculture to commerce, but, rather, different forms of activity which seem to us to be organized in almost totally contrasting manners. Even within agriculture an opposition is drawn between the effects of the earth's natural fertility and the human efforts of the labourer. But, taken as a whole, agricultural activities are contrasted with the activities of the artisan, as natural production to technical manufacture. And, in their turn, the works of the artisans are classed with the products of the soil in the natural economy that conforms with the immutable order of men's needs. When

contrasted with the making of money, which has no more than a conventional value, the work of the artisan, too, is seen as a part of nature.

Thus, in the activities of the farmers and artisans, the human aspect of work is apparent without ever quite being identified as such. On the whole, man does not feel he is transforming nature, but rather conforming to it. In this respect, commerce is, in a way, scandalous, both for intellectual and moral reasons.

Nor, whatever their profession may be, do men feel that they are creating a social value by the effort they put into their work. Different human qualities correspond to the various professions and these qualities situate each man in his place in the hierarchy of the city. From the point of view of his social role, the artisan is not a producer. Through his trade he is linked with the user in a relationship of natural dependence, of service. But the word 'nature' no longer has the same meaning for the two terms of this relationship, namely, for the worker and the user. Only χρεία belongs to the order of πρᾶξις in that it is a free activity that conforms to the nature of man as a reasonable and political being. ποίησις places the artisan on a different level, that of physical forces and material instruments. Just as trades lie outside the political life of the city, the artisan's manufacturing activities represent a level and type of behaviour which lies right outside πρᾶξις.

NOTES

1 'Journal de Psychologie' (1955), 1-29.

2 Cf. P.M. Schuhl, 'Machinisme et philosophie' (2nd edn, Paris, 1947), 1-22; A. Aymard, Hiérarchie du travail et autarcie individuelle dans la Grece archaique, 'Revue d'histoire de la philosophie et d'histoire générale de la civilisation' (1943), 124-46; L'idée de travail dans la Grèce archaique, 'Journal de Psychologie' (1948), 29-45; A. Koyré, Les philosophes et la machine, 'Critique' (1948), 324-33 and 610-29; Du monde de '1'à peu près' à l'univers de la précision, 'Critique' (1948), 806-23 (reprinted in 'Études d'histoire de la pensée philosophique' (Paris, 1961), 279-329).

3 Cf. I. Meyerson, Le travail: une conduite, 'Journal de Psychologie' (1948), 7-16.

4 Cf. Aristotle 'Politics' 7. 1325b 15 ff.: action - βίος πρακτικός - does not imply any exterior object; cf. 'Nicomachaean Ethics' Z4 1140a: τῆς μὲν γὰρ

ποιήσεως ἕτερον τὸ τέλος, τῆς δὲ πράξεως οὐκ ἂν εἴη· ἔστι γὰρ αὐτὴ ἡ εὐπραξία τέλος (production has an end other than itself, action has not; for the completed action is itself the end). And 'Metaphysics' θ, 6, 1048b 18 ff.; 8, 1050a 23 ff.

5 163bd.

6 Cf. E. Dupréel, 'Les Sophistes' (Neuchâtel, 1948), 133.

7 According to Aymard, possibly even beggars; cf. L'idée de travail, 39.

8 H. Jeanmaire, 'Dionysos, histoire du culte de Bacchus' (Paris, 1951), 30-3.

9 In illustration, Pandora and her double, Anesidora, 'who makes gifts come forth', appear as deities of the earth and of fertility.

10 The comparison between Hesiod 'Theogony' 595 and 'Works and Days' 305 is revealing; cf. also 'Works' 704: woman is δειπνολόχη always on the lookout for festivity and pleasure. She consumes her husband's wealth and also his sexual vigour.

11 On the different levels in the representation of the deities presiding over agriculture, cf. J. Bayet, 'Revue de l'histoire des religions' (1950), 1: 172-206.

12 Hesiod 'Works' 597 and 805; Homer 'Iliad' 5. 500; Theocritus 'Idyll' 7. 30 and 155.

13 Homer 'Iliad' 13. 322 and 'Odyssey' 2. 355.

14 Hesiod 'Works' 780 ff.

15 Ibid. 826-8.

16 Ibid. 309.

17 Ibid. 493.

18 Cf. A.J.V. Fine, Studies in Mortgage, Real Security and Land-tenure in Ancient Greece, 'Hesperia', supl. 9 (1951); L. Gernet, 'Studi in onore di Ugo Enrico Paoli' (1955), 345-53.

19 On these religious aspects of real estate, cf. in Aristotle 'Constitution of Athens' 11. 4, the lines where Solon praises the freeing of 'the venerable mother of the Olympians, the black Earth ..., once enslaved but now free.'

20 In a comedy we catch a glimpse of what life must have been like for the peasant of Attica, working his land with the help of a few slaves. Diceopolis from the rural deme of Acharnes is confined to Athens on account of the war, and has a horror of the city. He pines for his village 'which does not know the word "to buy", and provides him with everything, all on its own': Aristophanes 'The Acharnians' 35 ff.; cf. also, in the 'Plutus', the praise given by poverty to the peasant life, one long round of work and frugal-

ity. The peasant of the Γεωργός, of Menander, who is entirely devoted to his land, is also a true brother of Hesiod's farmer.

21 Xenophon 'Oeconomicus' 1. 16. In the same sense, Aristotle 'Politics' 7. 1325a 32.

22 Xenophon 'Oeconomicus' 1. 21.

23 Ibid. 4. 2.

24 The farmers who work in the fields 'receive a strong and manly education'; they have the 'right kind of mind and body', ibid. 5. 13. On the life of the farmer as a hard training for the warrior life, ibid. 5. 4 ff.

25 Ibid. 4. 24.

26 Ibid. 6. 7. The same opposition appears in the Pseudo-Aristotle 'Oeconomica' 1. 1343 at line 25 ff. Agriculture leads to courage, ἀνδρεία. In contrast to the artisans' trades which render bodies unsuited to service, ἀχρεῖα, it makes men able to bear a life of hard labour in the open air: θυραυλεῖν καὶ πονεῖν.

27 Some people have been shocked by this application of the procedures of Socratic maieutic to agricultural knowledge: cf. Caster, 'Mélanges Desrousseaux' (Paris, 1937), 49, note 2. But Xenophon's intention is to make clear the spontaneous, natural aspect of agriculture as opposed to the technical skills that have to be learnt ('Oeconomicus' 19. 15, 16, 17). We learn the rules for agriculture from the deity itself (17. 3).

28 'Oeconomicus' 15. 10; 18. 10; 15. 4; 6. 9.

29 Ibid. 15. 11.

30 Ibid. 20. 14.

31 Ibid. 19. 18.

32 Ibid. 20. 2.

33 Ibid. 20. 4.

34 Ibid. 20. 14.

35 Ibid. 5. 19.

36 Ibid. 5. 20.

37 Ibid. 5. 12; cf. also 20. 14: the land treats well whoever treats it well. And 'Cyropaedia' 8. 3, 38: the land respects justice above all; it gives a true and just yield for the seed it has received. The same idea appears, in an ironic form, in Menander frg. 92A 35 and 96, Edmonds:'Nobody cultivates a more pious land, ἀγρὸν εὐσεβέστερον. When I sow it with barley in its justice it returns to me all that I have sown in it.' In the 'Oeconomica', Pseudo-Aristotle notes that, of all occupations, agriculture holds the top rank in the order of 'justice' (1. 1343a 30).

38 The Greek festivals and religious calendar are evidence

of the way that agriculture is integrated with religion.

39 E. Dupréel, 'Sociologie générale' (Paris, 1948), 207 ff.

40 If 'to cultivate' the land (in both the literal and religious sense) is normally felt to be an active participation in the natural and divine order, certain human operations may appear to be in contradiction with this order. Demeter's wrath against Erysichthon, who raised his axe against Demeter's wood, is well known. It was no doubt a sacred wood. But one interpretation of the story can be compared with the story of Lycurgus: Lycurgus kills his son, Dryas, or - in other versions - cuts his own foot off thinking that he is cutting a vine; and also with the story of Phylacus who renders his son impotent while cutting down a tree, or - in another version - while castrating animals.

41 This theme of virtue choosing the path of painful effort, πόνος, runs right through from Hesiod to Herodotus (7. 102), Xenophon, and Prodicos, cf. C. Picard, Nouvelles remarques sur l'apologue dit de Prodicos, 'Revue archéologique', 42 (1953), 10-41.

42 On this ideal of self-sufficiency, cf. Aymard, L'idée de travail.

43 In agriculture men draw their sustenance ἀπὸ τῆς γῆς, just as all creatures draw it naturally from their mothers. But agriculture draws nothing from man ἀπ' ἀνθρώπων in contrast to commerce and paid work: Pseudo-Aristotle 'Oeconomica' 1343b.

44 We should draw attention to the development of slavery in the country districts from the Hellenistic period onwards, and to the concentration of real estate. In a most revealing text Pliny contrasts the time when the land, being worked by the generals and the great personages of Rome, rejoiced beneath garlanded ploughshares and triumphal ploughs, and the time when, being delivered over to the hands of slaves and to feet that wear chains, it still consents to yield its fruits ('Hist. Nat.' 18. 4). In mythology, images of war chariots, triumphal teams of oxen, and ploughs are often interchangeable.

45 Compare, for instance, Pseudo-Aristotle 'Oeconomica' 1343a 25 ff. and Aristotle 'Politics' 1330a 25 ff. It must be pointed out that this inconsistency in the works written by or attributed to Aristotle can be explained by the fact that in the Greek world there were two very different forms of farms and farming, with contrasting social status for the individuals

involved. On the one hand there were the small-holdings, personally farmed by free peasant citizens, as at Athens; and on the other, there were 'tenant-farmers' who were excluded from citizenship, as in the warrior-type Dorian cities.

46 Gernet, who drew our attention to the figure of Margites and his importance in connection with one particular representation of technical activity, suggests a comparison with the Celtic god, Lug. A concept which is the exact opposite is to be found in the two texts of the 'Exodus', cited by P.-M. Schuhl, Labour and Contemplation, 'Efforts et réalisations' (December 1952). The eternal inspires Betsabel with a 'universal' skill so that he can do every type of work and make every kind of artistic product ('Exodus' 31. 1, 11 and 35. 30 ff.). Technical skill is used here to refer to artisan trades as a whole.

47 G. Dumézil, 'Tarpeia' (Paris, 1947), 208-46.

48 Hesiod 'Theogony' 639 ff.; Apollodorus 'Library' 1. 2, 1; cf. Dumézil, 'Tarpeia', 222.

49 According to Callimachus 'Hymn to Delos' 4. 31, it was the Telchines who were held to have made Poseidon's trident. The Telchines and the Dactyles are the first metal workers.

50 On this aspect of nomadism, cf. Plutarch 'The Life of Numa' 15. On the relation of metallurgy to oribasie, cf. Jeanmaire, 'Dionysos', 182.

51 We are referring to the classical period. We are aware that, in Homer, craftsmen had still not lost their 'itinerant' character.

52 F. Schachermeyr notes the contrast, in this respect, between the Greek *polis*, based upon personal bonds, and the towns of the East which had a territorial basis. In order to express the idea of the Babylonians, one is obliged to say: the people of the territory of the town of Babylon (La formation de la cité grècque, 'Diogène', 4 (1953), 33.

53 The Cynics, who support an ideal of self-sufficiency, go against the mainstream of the whole of ancient political thought. Cf. Aristotle 'Politics' 1. 1253a 25 ff.

54 Plato 'Protagoras' 320d ff.

55 Ibid. 324cd.

56 Plato 'Republic' 369b ff.

57 Ibid. 371b.

58 In Sparta the citizens are called ὅμοιοι. They are forbidden to exercise a professional activity.

59 φιλία is essentially a 'political' sentiment. 'Professional' feelings are, in contrast, of a different

kind - envy, rivalry, for instance. Cf. Hesiod: 'And potter is angry with potter, and craftsman with craftsman, and beggar is jealous of beggar, and minstrel of minstrel.' Activities connected with a trade entail Ἔρις ('Works' 25).

60 We have indicated, elsewhere, the opposition between the technological deities on the one hand - Athena, Hephaestus, Prometheus - and, on the other, Zeus, who is political and the sovereign ruler; also the relation between the technological deities and the function of distributing lots (see above, p. 250). In Aeschylus's 'Prometheus Bound' 45-50, Hephaestus complains about his trade, calling it a 'lot' that fell to him. He is told that all the other gods also received their lots as he did, except Zeus who is above specification.

61 Aristotle 'Politics' 2. 1261a 35.

62 Ibid. 7. 1329a 35.

63 Ibid. 3. 1280b 20 ff.

64 'Protagoras' 324e-325a.

65 In 'Capital' Karl Marx points out that this conception indicates an economic stage where an article's use value is still regarded as more important than its commercial value: 1. part 4, chapter 12.5, 365 (London and Moscow, 1954).

66 'Odyssey' 14. 228.

67 'Each of us is not, by nature, exactly like everyone else; on the contrary, our own nature distinguishes us from others; different men are suited to different tasks', Plato 'Republic' 370bc. 'Nature is not niggardly, like the smith who fashions the Delphian knife for many uses; she makes each thing for a single use, and every instrument is best when intended for one and not for many uses,' (Aristotle 'Politics' 1252b 1-5).

68 'Cyropaedia' 8. 2.

69 Cf. P.-M. Schuhl, Remarques sur Platon et la technologie, 'Revue des Études grècques' (1953), 465-72.

70 Xenophon 'Oeconomicus' 7. 22. It is easy to understand how it is that artisans lack the manly virtues, for like women they work 'indoors'. The same attitude toward the natural division of tasks between men and women appears in the Pseudo-Aristotle 'Oeconomica' 1343b 28 ff.

71 Aristotle 'Politics' 1252a 30 ff. It is well known that the opposition between the free man and the slave was not always accepted as a natural one.

72 Plato 'Republic' 374b. But Aristotle notes that nature does not make men cobblers in the same way that it makes them slaves ('Politics' 1260b 1).

73 What Agartharchides tells us about the organization of work in the gold mines of Nubia is most revealing: the workforce - composed of several thousand workers - was divided up to perform different tasks in the following manner: for the hewing, the strongest men (in the prime of life); for collecting up, the children; for breaking up the ore, the men over thirty years of age; for the grinding with a millstone, the women and old men; for purifying the mineral and for the truly metallurgical operations, the τεχνῖται. Technical abilities find their place in the hierarchy of task-distribution founded essentially upon natural differences, i.e., groups divided according to age and sex (Diodorus Siculus 3. 12, 14).

74 Antiphon, the Sophist, 1. 2.

75 No technical work ever consisted simply in applying learned rules (Plato 'Politics' 299d-300a). The skill consists in knowing when to use them at the favourable moment, καιρῷ, and in a suitable manner, ἐν τῷ δέοντι. As Plato remarks, if the artisan misses the right moment for doing his task, the whole thing is spoilt. For this reason the artisan can never leave his work ('Republic' 2. 370b). On this use of the καιρός, cf. Aristotle 'Nichomachaean Ethics' 2. 1104a 9.

76 'On the Art' and 'On the Places in Man' 34.

77 Aristotle 'Politics' 1. 1256b 34: Every skill is limited; there is not one whose instruments are infinite in number and size; 1. 1257b 28: For every skill, the means towards the end are not infinite and this end (τέλος) necessarily acts as a limit (πέρας).

78 Cf. Plato 'Republic' 373a ff. The techniques of imitation which produce pleasure can be endlessly multiplied since pleasure belongs to the sphere of what is unlimited. Conversely, techniques that claim to be universal, like those of the sophists, are necessarily also producing illusions, not realities, 'Sophist' 233e.

79 Espinas, 'Origines de la technologie' (Paris, 1897), 157-214.

80 This 'naturalization' of the techniques of artisans is strikingly expressed in the texts where Democritus systematically assimilates them to natural processes. Similarly, in the 'Heraclitean' treatise, 'On Regimen', all the technical skills are assimilated to the natural processes in the human body and in the world. For example, the weavers 'proceed in a circular movement, they continue weaving from one end to the other: this is like the circulation in the body.' The gold-

smiths wash and melt the gold over a gentle flame 'just as seed, being kept gently warm, becomes established in the body', etc. Thus 'all the arts share in human nature' ('On Regimen' 24). At the opposite pole of ancient thought, in Plato, human and 'mortal' τέχνη is no more than a reproduction of a divine τέχνη ('Laws' 889c ff. and 892b).

81 In Aristotle, moneymaking is οὐ κατὰ φύσιν in that it is not aimed at satisfying a need, but seeks money for its own sake. The making of a shoe has a natural end: the use of the shoe; but it can have another end which is not natural: the sale of the shoe ('Politics' 1257a 6 ff.). Every τέχνη can, in this way, be deflected from its natural function towards moneymaking (ibid. 1258a 10). In so far as it remains within the bounds of natural needs, exchange itself is κατὰ φύσιν. But, in contrast to the nature of a true τέχνη, moneymaking is 'unlimited', as if the art of acquiring wealth, usury, for example, had the power to 'generate' money from money indefinitely. The fact is that it does not 'generate' anything at all: money is only an illusion, 'having no value except by convention and not by nature since a change in the conventions of those who use it can render it incapable of satisfying our needs' (1257b 11-15).

82 Plato 'Republic' 601d. On the ideas of manufactured objects, cf. V. Goldschmidt, 'Essai sur le Cratyle' (Paris, 1940), 69 ff., and D. Ross, 'Plato's Theory of Ideas', 170 ff.

83 Aristotle 'Politics' 3. 1282a 17 ff.

84 Cf. especially: ibid. 7. 1328a 27-33.

85 Ibid. 3. 1277b 28-30.

86 Plato 'Republic' 601c ff.

87 Aristotle 'Politics' 1. 1254a.

88 The social history of work confirms that this system of thought is a true reflection of the way the *polis* was organized. The place of slaves in artisan activities was to increase: in order to take part in political life, citizens increasingly left the responsibility of producing riches to them and to metics. Whatever the importance of artisans may have been in the life of commercial cities such as Athens or Corinth, economic activities always remain in the background in the institutions of the city and in the conceptions that these express. The *polis* continues and extends traditions of an aristocratic nature: it is not 'bourgeois' as is the town of the Middle Ages.

11 Some Psychological Aspects of Work in Ancient Greece

Work is a human phenomenon of many dimensions. To analyse it fully, studies on various levels must be made. The history of work may be technological, economic, social, and psychological. Our remarks here are chiefly concerned with this last aspect of work in ancient Greece. We shall be considering it as a particular form of human activity. We shall be inquiring into its role as part of man's inner experience, its meaning, and its psychological content. Our point of view is nevertheless a historical one. Just as it would not be right to apply the economic categories of modern capitalism to the ancient Greek world, we cannot ascribe the psychological functions of work today to the man of the ancient city.

For us, all professional tasks, no matter how different they may be in concrete terms, belong to a single type of behaviour: in all of them we see the same type of activity, set in a framework of rules and constraints, whose effects directly concern others and whose object is to produce something that has a utility value for the group. (2) This unification of the psychological function of work goes hand in hand with the emergence of what Marx, in his economic analysis, calls work in the abstract. (3) So that the various working activities may be integrated to form, from a psychological point of view, a single function, man must be able to conceive his own particular activity - whatever form each individual task may take - as work understood in a general sense. This is possible only in the context of a fully commercial economy in which every form of work aims to create products with a view to selling them. Under these conditions one no longer makes a particular article to satisfy the needs of a particular user. Every job, be it agricultural or industrial, ends up by producing something salable which is not intended for any individual in particular, but for a market where

things are bought and sold. Through the medium of the market all the jobs done throughout the society are related to one another, brought into contact with one another, and thus made comparable. This has two consequences: in the first place, the activity of working no longer brings the producer and the user into more or less direct contact. With its products being put into general circulation, work takes on the aspect of a general exchange taking place within the social body as a whole. It thus appears as the link par excellence among the various social agents, and the basis for all social relationships. Second, when the products of work are brought together in a market economy this not only changes the products themselves - which are all quite different from the point of view of their use - into commodities comparable from the point of view of their value, but also transforms all the varied and particular forms of human work into one single activity, work in the abstract, conceived from a general point of view. In contrast, in the context of the technology and economy of the ancient world, work is still seen only in its concrete aspect. Each job is defined in terms of the product it aims to manufacture, cobbling in terms of shoes, pottery in terms of pots. Work is not considered from the point of view of the producer, as the expression of the same human, creative - and socially useful - effort. So, in ancient Greece we do not find the idea of one great human function, work, encompassing all the trades, but rather that of a plurality of different ones, each constituting a particular type of action with its own particular product. Furthermore, whereas agricultural activities as a whole are in our view an integral part of working behaviour, for the ancient Greeks they remained outside the sphere of the trades. For a writer such as Xenophon, farming has more in common with the warrior activity than with the occupations of the artisans. Work on the land does not constitute a trade nor a technological expertise nor a social exchange with others. And, from the point of view of their psychology, the farmer toiling in his fields is the antithesis of the artisan at his workbench. (4)

Work is thus strictly limited to the sphere of the artisan trades. This type of activity is characterized first and foremost by its strict specialization, and by the divisions within it. Each category of artisans is destined for a single type of product. But, as Marx remarked, in the ancient world, the division of labour is seen exclusively from the point of view of the value in use of the product made. (5) Its purpose is to make each product as perfect as possible, for the artisan makes a

particular article all the better when he concentrates on it alone. There is no sign of the idea of a total productive process divided up in such a way as to obtain a greater mass of products from human labour in general. On the contrary, each trade comprises a separate system, within which everything without exception is subordinated to perfecting the product to be manufactured. This applies to the instruments, the technical operations, and even to aspects of the nature of the artisan himself, namely, to certain specific qualities which belong to him alone. A trade is thus seen as something that differentiates citizens and sets them apart from one another. If they feel united in a single city, this is not as a result of their professional work, but despite it and apart from it. (6) Social links are forged outside one's trade, in the only sphere in which citizens can feel mutual friendship, because here they all behave in the same way and do not feel different from one another: this is the sphere of those activities which are not professional and not specialized and which make up the political and religious life of the city. Because it is not conceived as an abstract unity, work, in the form of trades, does not yet appear as a system of exchange in the sphere of social activities, as the fundamental social function.

Rather, it appears to establish between the producer and the user of a product a personal bond of dependence or a relationship of service. So far as his trade is concerned, the capabilities of the artisan are strictly subordinated to his product and his product is strictly subordinated to the needs of the user. The artisan and his skill exist 'for the sake of' the product, the product 'for the sake of' the need. It could not be otherwise so long as the product of work was considered, as it was in the ancient world, only from the point of view of its value in use, not its exchange value. (7) So far as its value in use is concerned, the product is indeed defined by its service to the person who uses it. It is only if it can be considered from the point of view of its exchange value that it can be conceived separately from its concrete usefulness, from the point of view of the work put into it. (8) If one has the value in use in mind the product is not seen in terms of the human work that created it, as work made concrete; on the contrary work is seen in terms of the product and its capacity to satisfy a particular need of the user. (9) Thus, thanks to the role of the product, work establishes between the artisan and the user an economic relationship of servitude and an irreversible relationship of means to ends.

Passing from economic practice to philosophical theory,

this system of relationships among the artisan, his activity, the product, and the user is expressed in a general theory about craftsmanlike activity. In every case of production by a craftsman, the artisan is the moving cause. He operates on a material (the material cause), giving it a form (the formal cause) which is that of the completed article. This form is, at the same time, the goal (the final cause) of the entire operation. This is what controls the whole of the craftsman's activity. The true causality at work in this process lies not in the artisan but outside him, in the manufactured product. The essence of the manufactured product is itself independent of the artisan, his manufacturing methods, his skill, and his technical inventiveness. It is a model that is changeless and uncreated, and it is defined in terms of its purpose in relation to the need of the user that it must satisfy. The essence of a chair is the perfect adaptation of all its parts to the use made of it. Artificial production is the same as natural production from the point of view of the principles governing its dynamic. The principle and source of every operation is always the end of the process, the 'form' actualized in the created product. The moving cause is not really responsible for the production; (10) its role is that of a means by which a pre-existent 'form' is actualized in matter. Just as a man comes from a man through the intermediary of semen, a house comes from a house through the intermediary of the mason. (11)

Let us now consider work from a more purely psychological point of view. The operations of an artisan constitute what the Greeks call ποίησις, production as opposed to πρᾶξις, action in the strict sense. (12) For there to be action in the true sense of the word, the activity must have an end in itself, and thus the agent, in accomplishing his action, benefits directly from what he is doing. For example, in moral activities, the agent, by himself embodying the moral quality, produces something of value which he at the same time uses. But this is not the case with ποίησις. This creates a piece of work external to the artisan and foreign to the activity that produced it. The work of the artisan and the essence of the work as defined by its use have nothing in common. They belong to different spheres, one of which is subject to the other, just as the means is subject to the end and is in no way part of it. (13) Manufacturing an article is one thing, using it is quite another, radically different from it. Thus, as the person who does the work, no artisan commands the use of the article he makes. (14) Because it is alienated within the concrete form of the product and its

value in use, the artisan's work is considered to be service to others, in fact, slavery. (15) In the hands of the user the artisan plays the role of an instrument designed to satisfy the user's various needs. So when Aristotle is defining the ποιητικὰ ὄργανα, the instruments that 'produce' an article, he mentions tools and artisans in the same breath. (16)

The result of this split between the productive operation and the product is that the artisan, as such, is not considered to have the best understanding of the 'form' that he must embody in matter. His activity is concerned with the manufacturing processes and the technical rules, in other words, the means of working on matter. The 'form' is beyond him. Knowledge of the essence of the product, that is, of the 'form' or end is the exclusive province of the man who understands what the object is for and how to use it, that is to say, the user. (17) What this comes down to is that the work of the artisan is seen as pure routine, the application of certain empirical formulae for the purpose of making some material conform to a model, the nature of which is communicated from the outside through the indications or instructions of the user.

Being thus subject to others and directed towards an end which is beyond it, how could the ποίησις of the artisan possibly be felt to be a true type of action? In order to distinguish it and true activity, πρᾶξις, Aristotle calls it a mere movement: κίνησις. The term movement implies imperfection for since it pursues an end which is beyond it, it does not possess the ἐνέργεια, actuality, in itself. The action is seen to be present in the 'form' that is created in the product itself not in the effort of work, the human energy that has been spent on it or the process of production itself. Aristotle writes that when human activity creates nothing outside itself it is πρᾶξις and the actuality is located within the agent himself. He adds that in every case where something is produced apart from the action itself, the actuality is in the object made; thus the actuality of building, for instance, lies in what is built, the actuality of weaving lies in what is woven. (18)

It is clear that, in a social and mental context such as this, a man 'acts' when he uses things, not when he makes them. The ideal of a free man, an active man, is to be always a user, never a producer. And the true problem raised by action, at least where man's relationship with nature is concerned, is that of 'using things correctly', not of transforming them by work.

Thus the same priorities seem to exist on various

levels in Greek society and culture. In the economic sphere the value in use of an object is more important than its market value; the product is considered in terms of the service it renders, not of the work put into it. In the philosophical sphere the final cause, that 'for the sake of which' each object is made, is more important than the efficient cause 'by which' it is manufactured. In the psychological sphere the created product, completed and ready to be used, is more important from the point of view of actuality, of ἐνέργεια, than the work effort of producer. πρᾶξις, which makes an agent's action directly useful to himself alone, is judged to be superior, as a type and level of activity, to ποίησις, the manufacturing operation which brings the producer, through the intermediary of the article produced, into a relationship of dependence on and personal service to the user.

NOTES

1 'La Pensée' 66 (1956), 80-4.
2 Cf. I. Meyerson's article entitled Travail, fonction psychologique, 'Journal de Psychologie' (1955), 3-17.
3 'While labour which creates exchange-values is *abstract*, *universal*, and *homogeneous*, labour which produces use-values is concrete and special and is made up of an endless variety of kinds of labour according to the way in which and the material to which it is applied,' Karl Marx, 'A Contribution to the Critique of Political Economy' (Chicago. 1904), 33.
4 See above, pp. 252 ff.
5 Karl Marx, 'Capital' (London and Moscow, 1954), 1: 365: 'In most striking contrast with this accentuation of quantity and exchange-value, is the attitude of the writers of classical antiquity, who hold exclusively by quality and use-value.'
6 See above, pp. 257 ff.
7 Of course, Aristotle is not unaware of exchange-value since he defines it in the 'Politics' (it is a definition which Marx quotes at the beginning of his 'Critique'). However, as Marx points out in chapter 2 of this work (note to 78, 79), he cannot 'as an ancient Greek' understand what it is that constitutes the unity of salable commodities and makes it possible for them to be interchangeable as exchange-values. Like other ancient writers, he sees a product only in terms of its value in use.
8 Marx remarks, strikingly, that in terms of their

exchange-value salable commodities are no longer seen from the point of view 'as to the service which [they] render, but as to the service which [they] have been rendered in [their] production,' 'Critique', 34.

9 This point of view was to continue right up to the introduction of the capitalist system of production. 'Had we inquired under what circumstances all, or even the majority of products, take the form of commodities, we should have found that this can only happen with production of a very specific kind, capitalist production,' Marx, 'Capital', 1: 169. And again, 'It is only from this moment [when labour-power takes the form of a commodity] that the produce of labour universally becomes a commodity' (ibid., 170, note 1). Similarly, in the 'Critique', 66-7, 'Stenart knew very well that products took on the form of commodities and commodities the form of money in pre-capitalistic epochs as well; but he proves conclusively that it is only in the capitalistic period of production that the commodity becomes the elementary and fundamental form of wealth, and alienation [of commodities] the ruling form of acquisition and that, consequently, *labour creating exchange-value is specifically capitalistic in its character*' (my italics).

10 This view of craftsmen's activities in Plato and Aristotle is strikingly analysed by V. Goldschmidt: 'Le Système stoicien et l'idée du temps' (Paris, 1953), 146 ff.

11 Aristotle 'Metaphysics' 26. 9, 1034a 30 ff.

12 See above, p. 248.

13 'When of two related things one is a means and the other an end, in their case there is nothing in common except for the one to act and the other to receive the action. I mean for instance the relation between any instrument or artificer and the work that they produce: between a house and a builder there is nothing that is produced in common, but the builder's craft exists for the sake of the house' (Aristotle 'Politics' 7. 1328a 29 ff. In the same way the slave exists for the master. He belongs to him and is part of him. But the master does not depend on the slave, ibid., 1. 1254a 9 ff.

14 Cf., for example, Plato 'Euthydemus' 289c ff.

15 Aristotle states that every artisan is a slave in the sphere of his trade. Naturally the reason for this alienation is that the product of his work is not intended for the artisan himself. It may be sold. In that case it is a salable commodity. But in this society the same product may not be a salable commodity

because of the presence of domestic labour and the existence of certain forms of servile labour. So, within the framework of a social system where the category of the salable commodity is not yet of paramount importance, an exchange-value is only appreciated in the form of 'a value in use destined for another man'. This is made particularly clear in Aristotle's analyses of exchange-values. It is hardly necessary to note that for Marx, 'the production of commodities does not become the normal, dominant type of production until capitalist production serves as its basis,' 'Capital', 2: 31.

16 Aristotle 'Politics' 1. 1254a.

17 Ibid. 3. 1282a 17 ff.; 1277b 28-30; Plato 'Republic' 601c ff.; 'Cratylus' 390b ff.

18 Aristotle 'Metaphysics' 1050a 30-5.

12 Some Remarks on the Forms and Limitations of Technological Thought among the Greeks

Between the seventh and fifth centuries BC in Greece the sphere of technology became more sharply defined and technological activity came to be recognized as having certain particular characteristics. In Homer, the term τέχνη refers to the 'know-how' of the *demiourgoi* such as the metal-workers and carpenters, and to certain women's tasks demanding experience and dexterity, for instance, weaving. (2) But it is also used to refer to the magic of Hephaesteus or the spells of Proteus. (3) There is as yet no clear distinction between technological achievement and feats of magic. The secrets of a trade and the dexterity of a specialist belong to the same type of activity and involve the same type of intelligence, the same *metis* as the art of the diviner, the wiles of the sorcerer, and the witch's knowledge of potions and enchantments. (4) Moreover the social category of the *demiourgoi* includes the brotherhoods of diviners, of heralds, of healers and of bards, as well as the professional workers in metal and wood.

By the classical period, however, the technical skills have become secularized. The artisan no longer depends upon religious forces; instead, he operates on the level of nature, of *phusis*. His *technè* is essentially defined by being contrasted with chance, luck, *tuchè*, and the divine gift, *theia moira*. (5) For the artisan, success depends upon the effectiveness of certain positive methods. Its sole source lies in practical knowledge which is acquired through apprenticeship, and which lays down the rules of the trade for every specialized activity.

When the *technè* was freed from magic and religion, a more precise idea was formed about the role of artisans in the city. Alongside the farmers, the warriors, and the civil and religious magistrates, the artisans now made up

a separate social category with a strictly defined place and function. The artisans' activities were quite foreign to both the political and the religious spheres, and answered a purely economic need. The artisan was at the service of others. Since he worked in order to sell - for money - the product that he had made, his position in the state was defined simply in terms of economic exchange. (6)

A rational view of the *technè* had emerged, the trades had become secularized and the function of the artisan had been more precisely defined: the conditions for the development of true technological thought appeared to exist. Indeed, A. Espinas, in 'Les Origines de la technologie' thought it possible to situate around the beginning of the fifth century the turning point that marked the development of technology, in the true sense of the term, from unselfconscious technical skill. (7) He detected in the sophistic movement the first attempts to define and establish technological thought as such; he saw evidence for this first in the production of a series of manuals dealing with individual *technai*, and second in the elaboration of a kind of philosophy of technology, a general theory about human *technè* and its achievements and potentialities. For most of the Sophists knowledge was conceived as the mastery of formulas which could be codified and taught to others. For them the problem of action was not a matter of ends to be recognized or values to be defined. It was expressed purely as a problem of means. What were the rules and procedures for success in the various spheres of life? All branches of knowledge, all practical behaviour, morality, politics, and religion were to be considered from this 'instrumentalist' point of view, as techniques of action useful to individuals or cities.

The new ideals of utility and effectiveness, which supplanted more ancient values for human behaviour, were promoted during a period and in a society which nevertheless remained closed to technological progress. It is paradoxical that while technology was emerging and was apparently highly valued by the Sophists there was at the same time what P.-M. Schuhl has called a veritable block in Greek technological thought. (8)

In point of fact, the Greeks, who invented philosophy, science, ethics, politics, and certain forms of art, were not technological innovators. Their tools and technical knowledge were borrowed from the East at a very early date and were not fundamentally modified by new discoveries. Such innovations or improvements as they introduced in certain fields did not go beyond the framework of the

technology that seems to have already been established by the classical period. This consisted in the application of human or animal force, using a variety of instruments, not in the use of the forces of nature with the help of machines supplying motive power. (9) In general, the material civilization of the Greeks did not progress beyond the stage that is described, depending on the writer, as the technology of the *organon*, or 'eteotechnology', technology concerned with the simple adaptation of men to circumstances. (10)

At this level of technological thought we no longer find the archaic conception of animated instruments and living works of art, echoes of which are still found in passages of Homer. (11) However, the tool, directly manipulated by man, still appears as an extension of his own organs. (12) The *organon* transmits and amplifies the force of man, rather than acting by virtue of its own internal structure and producing an effect through a mechanism of a type different from human energy. When used, the tool adapts itself to the body's own rhythms. It operates within a human time scale. It does not, as an instrument, have its own time scale. (13) When it does, this is not as an artificial tool, but as a natural instrument, such as fire, whose power, *dunamis*, manifests itself over a period of time which is foreign, and incomprehensible, to man. One contemplates fire cooking things in the oven as the farmer contemplates his wheat growing. It is impossible to understand either the duration of the operation or what makes it work, for both are connected with the fire's own power and not with human ingenuity.

The stagnation of technology and the persistence of a pre-mechanical mentality at a time when technical thought appears to be starting to develop are phenomena that are all the more surprising given that the Greeks appear to have possessed the intellectual equipment which should have made it possible for them to make decisive progress in this field, as they did in others.

There is, in effect, evidence to show that they were able to tackle certain technical problems on a theoretical level quite early on, using the scientific knowledge available at the time. As early as the sixth century an undertaking such as the underground canal constructed at Samos by the ἀρχιτέκτων Eupalinos of Megara presupposes the use of procedures as sophisticated as triangulation. (14) There is every reason to believe that this was not an isolated case. The term ἀρχιτέκτων, as used by Plato and Aristotle, refers to the professional man who directs the work from above, as opposed to the labourer or artisan

who actually sets his hand to the task. The activity of this ἀρχιτέκτων is intellectual, that is, essentially mathematical. (15) Since he possesses the elements of a theoretical knowledge he is in a position to transmit it through rational teaching, a very different matter from practical apprenticeship. In medicine the true ἰατρός is distinguished from the ordinary practitioner by his knowledge of the nature and general causes of illnesses; and similarly, in his own field, namely architecture and town-planning, ship-building, the construction of war-machines and of theatrical machinery and scenery, the ἀριχτέκτων relies upon a *technè* which takes the form of a more or less theoretical system.

Furthermore, as well as craftsmen there were nonprofessionals whose mathematical investigations led them to write about mechanical questions and to become interested in them for their own sake. One such was Archytas of the fourth century, to whom are ascribed, among other things, the inventions of the pulley and the screw and the construction of a flying automaton. (16) Archimedes was another example, from the third century. Tradition has it that he was a military engineer by necessity and only applied himself to practical matters against his inclination. Nevertheless, while he was finding endless applications for the screw and perfecting winches and pullies for lifting heavy weights, he also wrote about the geometrical properties of the spiral, established a theory of the balance of forces in the lever and scales, and defined mechanics as the science by which a given weight can be moved by a given force. The inquiries pursued in the Peripatetic school also included technological questions. The 'Mechanica', which are attributed to Aristotle, aim to provide a rational explanation for the effects produced by the 'simple machines' which are the basis for all complex mechanical devices, and whose properties are, according to the author, derived from the circle which is their common principle. These attempts at theoretical elucidation of the problems encountered in certain sectors of technological activity finally led, in the Alexandrian school, to the work of Ctesibius and Philo, and later to that of Hero. These men were known as μηχανοποιοί, the constructors of machines. They were engineers and inventors. They produced theories about various types of machines, how to make them, the way they worked, the rules for their use. Their purpose was twofold: to provide a rational and demonstrative systematization of the subject matter, based upon the relevant 'principles', (17) and to give details regarding the construction of these machines, clear and precise enough to be of practical use to the craftsmen concerned. (18)

Apart from the five simple machines, the lever, the pulley, the windlass, the screw, and the wedge, whose theory they develop following Aristotle, the technology of their machines incorporates a complex use of valves, cylinders, and pistons, the cogwheel and gearwheel, and the siphon. Since Archimedes, men had known how to calculate the distribution of weight over supports and how to achieve a state of balance, using a given force, by means of a certain number of pulleys, windlasses, and gearwheels. Apart from these factors, the new devices employed the torsion of cables, the elasticity of sheets of metal, the compression of air and liquids, the rising and falling currents of air and water when these were heated and cooled, the effects of communicating vessels and also of a vacuum, and the power of steam.

A series of remarkable inventions were produced by this technological ingenuity combined with research into general principles and mathematical rules, which, on occasions, enabled calculations to be made concerning the construction and use of machines. (19) Yet this ingenuity did not transform the technology of the ancient world. It did not break down the barriers imposed by the framework of pre-mechanical thought. Two observations should be made at this point. Wherever the machines described by the engineers have a utilitarian purpose they are used and conceived as instruments for multiplying human strength, on which indeed - despite their complexity - they depend for their only motive principle. When they call upon other sources of energy, and, instead of amplifying a force given at the outset, act as automata producing their own movement, they turn out to be constructions that follow a whole tradition concerned with objects to be marvelled at, and, as such, are only marginally relevant to technology in the strict sense. (20) They are *thaumata* made to astonish people. The very strangeness of their effects, which are brought about by some hidden device, severely limits the scope of their application. Their value and interest lie not so much in their usefulness as in the admiration and pleasure that they arouse in the spectator. Not for a moment is there any hint of the idea that by means of such machines man could command the forces of nature and transform, master, and control it.

In attempting to account for the limitations that this technological thought never overcame, despite its rich inventiveness, attention has quite rightly been drawn to the way that its development was hampered by the economic and social structures of Greece, in particular by the existence of an abundant slave labour force and by the lack of any internal outlet for commercial production. (21)

P.-M. Schuhl has also commented on certain ideological features in this slave society, which could well have frustrated any tendency to develop technological thought. In the values of Greek culture, contemplation, the liberal life of leisure, and nature were prized over their opposites, the disparaged categories of practical activity, what is useful, servile labour, and the sphere of the artificial. But apart from these obstacles which are to some extent external ones, we believe it is possible to detect within the particular form that technological thought itself took in Greece certain internal reasons to account for its limitations. There was, in the ancient world, no fixed body of technological thought having the features that we find in technology today, which ensure that it is geared to progress by virtue of its own spontaneous dynamic. Each branch of technology had its own system of thought. Intellectually, the use of a tool and the application of a technique belonged to a particular structure of thought as well as to a particular social context. Not only did they depend on the type and general level of existing technological knowledge, but they also implied a whole set of attitudes determining the concepts of what a tool was, how it worked and the nature of this action, its relation to the object produced and the agent producing it, and its place in the natural and human world. We tend to ascribe to the technology of the past the features which characterize that of our contemporary industrial civilization. We imagine that once it has been disentangled from magic and religion, technology must necessarily depend on science, becoming its practical implementation. Since it is concerned with natural phenomena rather than with the supernatural does it not have the same subject matter as science? Whatever knowledge it entails must, in that case, be scientific. Thus we imagine that technological knowledge must be applied science. And, similarly, we assume that because it is in close contact with reality, dealing with concrete things and concerned to be effective, technological knowledge should be open to critical observation, trial and error, prediction, verification and modification, essentially a matter of the experimental method. Because it operates on and in space and affects material objects, we imagine that it must be most suited to mechanical schemata, and that it involves that flair for adjusting the various parts to a whole and making them all work together that is typical of the handyman's do-it-yourself work. In sum, we assume that it is consciously seeking to transform nature, to impose upon it a human world of artificial devices which can be improved indefinitely. A technology

that is inventive, mechanical, experimental, bound up with science, would, in effect, through its own internal logic, be pledged to innovation and progress. Stagnation in such circumstances could be explained only by external obstacles. But the truth is that the technology of the ancient world does not appear to have been like this, either as put into practice in the crafts or even when expressed in a rational and theoretical systematization.

It was not, and could not be, applied science as we understand it. As A. Koyre has shown, it operated upon the shifting realities of the earthly world, which, in the eyes of the Greeks, constituted the domain of the 'approximate', to which neither exact measurements nor precise calculations were applicable. (22) So it had a different subject matter and operated on a different plane from science. Greek science was concerned with immutable essences or the regular movements of the heavens. It obeyed a logical ideal of deductive demonstration starting from self-evident principles. Because there was no exact way of measuring time, it did not grasp the process of becoming in quantitative terms, nor establish any connections between mathematics and physics. How could technology apply physical laws that did not exist?

It is true that in certain limited sectors of technological activity some use was made of mathematics, and thereby it was, as we have seen, possible to approach some problems theoretically and find rational and demonstrative solutions to them. But the point is that the reasoning remained rigorous only so long as it did not venture beyond the realm of pure theory. A concern for effectiveness and for taking purely technical details into account belongs to a different type of thought operating on a different level, that is to say, no longer that of demonstration, but what the Greeks called ἐμπειρία, experience which is not the same as experimentation nor experimental thought, but is practical knowledge obtained in the course of random gropings. As one gets closer to physical reality theory loses its rigour and ceases indeed to be theory. It is not applied to but rather becomes debased in concrete facts.

Hero, the engineer, is a good example: when he reasons on a theoretical level, he is very little concerned with adjusting his mechanical models to conform with technical realities. His solutions may well be quite impracticable. In his treatise on the 'Baroulkos' he poses the problem of how to move a weight of one thousand talents with a force of five. The calculations for the various systems of gearwheels that he proposes do not take any account of resistance or friction; since these are not

measurable they remain outside the field of theory. Hence, the results, which are quite valid as schemata of theoretical calculations, are in practice unrealizable. As described, the gearwheels would not work. If an engineer actually had to construct a machine capable of lifting a thousand talents with only five, he would be obliged to make the necessary adjustments to the theory. In other passages of this work Hero did put himself in the position of the practitioner and used his experience to take account of the practical difficulties of his craft. So, in Hero's account of constructing machines, we find both levels of thought; what is lacking is the link between them.

In contrast, in a treatise such as Aristotle's 'Mechanica' which had a profound influence on the whole school of Alexandrian engineers and by which Hero is still directly inspired, the point of view is one-sided, being purely theoretical. And the theory of the 'Mechanica' is certainly not applied science. In Aristotle's work, mechanical problems are considered not so much as such and for their own sakes, but rather in connection with the difficulties of a logical order to which they give rise. Aristotle is interested in mechanical constructions because he sees them as 'paradoxical' phenomena that the philosopher must explain. The nature of his thought is not technological. Even if certain passages of his demonstrations resort to mathematical reasoning, and - in order to state certain problems - take material facts as their starting point, his thought remains essentially logical and dialectical in its inspiration. The form, the terminology, and the conceptual framework of the theory in which it is expressed remain strangely close to those of the sophistic method. *Méchanè* still has a meaning close to that of a trick or expedient; it is defined as an ingenious invention which enables a man to extricate himself from an embarrassing situation or *aporia* and assume the advantage over some natural force that is contrary and superior to him. This battle between *technè* and *phusis* and the methods that ensure victory for the former are conceived in terms of a verbal jousting match in which the Sophist attempts to win a difficult cause against his opponent. The Sophists had developed what can be termed a dynamic view of argument. With their Διισσοὶ λόγοι, their antithetical speeches, they had accustomed men to believe that, in any debate, the arguments for and those against can be drawn up in two lists, counted, compared, and their relative strength and weight measured. (23) The *technè* of the Sophist consists in mastering the procedures through which weaker arguments

can, in such a confrontation, counterbalance stronger ones, and defeat them, dominate them, κρατεῖν. In the 'Rhetorica' Aristotle defines it as the art of turning the weaker of two arguments into the stronger. (24) In a similar way he defines the sphere of mechanics as one in which, to use his own expression, 'the smaller dominates the greater', (25) and as the body of methods by which heavy weights can be balanced and moved by smaller forces. When, with the help of a lever, the puny strength of a man is able to overcome the much greater force of a heavy mass, this is, from a logical point of view, a strange phenomenon, ἄτοπον. There is something extraordinary, θαυμάσιον, about the instruments that bring about such a veritable reversal of strength. The purpose of theory is to elucidate this mystery. It shows that all mechanical procedures can be reduced to the effects and interaction of five simple instruments, the properties of which are derived from the nature of the circle. While by doing so, it lays the foundations for a system of rational mechanics, it also definitively limits its scope and establishes in advance the boundaries beyond which this *technè* must not venture. Just as in geometry it must be possible to construct every figure with a ruler and a compass, in mechanics every viable machine must be based upon the combination of the simple instruments.

According to the theory of the five instruments, the principle, *archè*, of all their effects derives from the properties of the circle. It is tempting to liken the astonishing reversal of power produced by the simple machines, as described by Aristotle, to the key procedure of sophistry - namely, that of turning an opponent's arguments against himself: the stronger the argument, the more unfavourable it becomes to him when used against him. Now Aristotle holds that the movement of a circle presents an ambiguity that makes a similar reversal possible. In the same movement the points situated at the two ends of the diameter are moved in opposite directions, so that if a circle transmits its rotation to a second circle that touches it at a given point, this second circle will also move, but in the opposite direction. The faster the movement of the first circle, the faster the second will be forced to turn in the reverse direction. (26) These analogies drawn between two, to us, quite foreign domains - dialectical argument on the one hand and ways of affecting nature on the other - represent more than a simple comparison and betray more than simply an affinity in terminology. They demonstrate how both these domains involve the same mental categories and use the same conceptual framework. There is proof for this in the truly

logical and dialectical character of the argument Aristotle uses to show that the circle is indeed the principle accounting for the fact that, thanks to a machine, what is smaller and weaker may be capable of dominating what is larger and stronger. It is because the circle itself is contradictory, the most astonishing thing in the world, combining several opposites in one single nature. It moves in two directions at the same time, it is both concave and convex, mobile and immobile. To Aristotle it is therefore normal and reasonable that it should be the principle for the reversal of strength. It is not surprising that something extraordinary should result from something even more extraordinary. (27)

This line of reasoning may seem strange, but its very strangeness makes it all the more significant. It shows how, in the absence of any experimental physics, it was impossible for technological thought to establish its own conceptual apparatus. When it was necessary to formulate its problems it had to turn not only to mathematics but also to the ideas already elaborated in theories of reasoning, discussion, and demonstration in what we have called the dynamic view of argument. It imagined action on nature taking the same form and following the same models as action on men. It saw technical instruments as the means to dominate things in precisely the same way as the orator dominates the assembly through his mastery over language. In his case it is the *dunamis* of the word and the strength of arguments that he manipulates or increases with his methods of proof, to achieve victory in the judiciary *agôn*. The mechanic also increases a *dunamis* with the artificial devices of his machines, in order to dominate a more powerful force. Not everything in mechanics can be expressed in mathematical terms. The dynamism of natural forces which could not yet be calculated in terms of the laws proper to physics is made more intelligible by being transposed in this way into dialectical terms where the logical strength of arguments was regularly assessed. (28)

Similar remarks apply to Archimedes's work on mechanics, although this was very different in inspiration. In this area his theoretical research is concerned exclusively with statics, that is to say, the problems of equilibrium which can be formulated and demonstrated following the rational method of exposition used by Euclid in the 'Elements'. Arnold Reymond remarks: 'It may seem surprising that having invented or perfected so many ballistic machines Archimedes made no attempt to study the theory behind them.' And he goes on, 'In our opinion his failure to do so can be explained by the logical difficul-

ties raised by the idea of movement.' (29) This would suggest that the arguments of Zeno of Elea prevented Archimedes from attempting to lay the foundations for rational dynamics. More light is shed on the problem by the treatises on ballistics left by the Alexandrian engineers. On several occasions Philo stresses that it is impossible to conduct this type of research by pure reasoning and rigorous demonstration. (30) In order to produce effective ballistic machines with the desired range it was necessary to have recourse to experiment, making the required empirical adjustments. As Schuhl correctly points out, even the formula which the engineer used to adapt the proportions of his machines according to the weights and range of the projectile (a formula for which Diels gives a mathematical expression) was not arrived at through theoretical demonstration but in an altogether empirical fashion, through successive adjustments and trial and error. (31) In his 'Life of Marcellus', Plutarch praises Archimedes for having wished to leave nothing in writing about the construction of these machines, which, after all, had done more to make him famous than any other part of his work. Archimedes's attitude should not be interpreted simply as aristocratic prejudice, a refusal to degrade his science by applying it to servile works. The fact is that, to his way of thinking, if a piece of research gave way to *empeiria* and was not entirely rational, it could not strictly speaking be considered as the subject matter for a true science.

Greek thought never succeeded in closing this gap between, on the one hand, science based on a logical ideal, and, on the other, *empeiria* dependent upon the random procedures based on observation. This is why, even in the case of the Alexandrian engineers, who, unlike Aristotle and Archimedes, pay considerable attention to technical applications in their treatises, we still do not find applied science but a compromise between theory and experiment which are not properly integrated and whose demands ultimately prove to be conflicting. (32) In the sphere of mechanics, theory remains faithful to Aristotle's logical bias. In the case of Hero, the five simple instruments formed a coherent and self-enclosed system that excluded innovation or progress. The solution to all mechanical problems consisted in calculating how one could, with these instruments, balance unequal forces given in advance, one of which was human strength and the other some weight of varying magnitude. The very rationality of the system prescribes its limiting factors and its inability to develop further. In contrast, once the sphere of mechanics was left behind, as in the case of

ballistics or pneumatic machines, the power of *phusis* on which they relied was no longer measurable. The explanatory principles suggested by theory were too general and qualitative and they fitted the technical details of construction only approximately. Neither the machines nor the forces they manipulated nor their resulting effects were calculated. Thus the machine they produced harnessed physical forces in a way that eluded the rigorous control of reason. It made it possible to deflect these forces momentarily from their normal course, and thus produced a phenomenon that was astonishing and exceptional but of limited scope. This element of the extraordinary is still the chief concern in the pneumatic machines of an engineer such as Philo. Like a conjuror explaining the secret of his tricks, Philo, in his treatise, gives the public the key to the finest *thaumata* both from tradition and of his own invention. (33)

The figure of the archaic artisan, closely related to the magician and surrounded with the rather disturbing prestige of the exceptional powers conferred upon him by his *metis*, is transposed, in the *mechanopoios*, into the figure of the engineer at grips with nature, who, with his clever devices, can force it to produce marvels. The forces of *phusis* which he manipulates and the control of which he explains contain a *dunamis*, a life-force, that is intractable to logical analysis. For this reason he is considered to operate on a plane as foreign to the rational science of the pure theorist as to the blind routine of the man who works at a craft. In the eyes of the ancient Greeks the domain of his operations and researches has some daemonic element, in the sense that Aristotle uses when, wishing to indicate that there is an irrational force for change in *phusis*, he writes that *phusikon* is *daimonion*. Plutarch noted the effect produced on those who saw them by Archimedes's war machines which turned Syracuse at war into a gigantic monster whose movements were controlled by the engineer as if he were the the monster's *psuché*, and he remarked that these war machines seemed to be the fruits of a knowledge that was not so much human as that of a daemon. (34) The expression seems all the more fitting given that Archimedes was not able to give his art of constructing machines the form of a completely rational science.

Thus, once it escaped from the narrow framework in which it was confined by the requirements of logical theory and moved towards new inventions, Greek technological research confronted the irrational. Just as in its methods it had to acknowledge the importance of *empeiria*, so in its works it was confronted with a living and anima-

ted nature on which it could not claim to impose its laws entirely. This is why machines created by engineers continued to be regarded as exceptional successes, achievements that did not appear to be capable of being adapted generally. Technical thought was caught between logic, from which it had great difficulty disentangling itself, and the art of the miracle-worker with which it tended to be confused where its boldest inventions were concerned, and it never managed to become clearly defined in itself. It was not experimental. Even when mechanical devices were used it remained tied to a dynamic concept of the nature upon which it operated. It never claimed for its devices an indefinite power to transform nature. Machines had only the limited value of an expedient; they were traps set at points where nature allowed itself to be overcome. The machine was not yet considered as a universal model of physical structures.

Passing from the sphere of technological theory to the practical crafts, the impression of stagnation becomes even more striking. The artisans themselves have not left us direct evidence concerning their work. But the writers of antiquity are all in agreement in seeing these crafts as the very epitome of a routine activity. (35) The *technè* of the artisan is not a true knowledge. (36) The artisan does not understand his method or comprehend what he is doing. He is content to apply slavishly the rules that he has been taught in the course of his apprenticeship. (37) His *technè* depends upon fidelity to a tradition that is not scientific; and outside this tradition any attempt at innovation would leave him at the mercy of chance. Experience can teach him nothing, for in his position - caught in the gap between rational knowledge on the one hand, and *tuchè*, chance, on the other - there is no question of theory or of facts able to verify theory; in fact, there is no real experimentation. He obeys the strict rules of his art and imitates the rigour and certainty of a rational procedure blindly, but, at the same time, using the kind of flair he has acquired by practising his craft, he must adapt himself to the always more or less unpredictable and chancy nature of the material upon which he works. (38) In technological operations time is not a stable, homogeneous quantity which can be grasped by the mind. Rather it is an active time, a time defined by the opportunity that must be seized, the *kairos*, that point where human action meets a natural process developing according to its own rhythm. In intervening with his tools, the artisan must recognize and wait for the moment when the time is ripe and be able to adapt himself entirely to circumstances. He must never desert

his post, according to Plato, for if he does the *kairos* might pass and the work be spoiled. (39) The ability to sum things up at a glance which is an essential part of the artisan's technical mastery only emphasizes the fact that he is slave to a *kairos* that he is not in a position to dominate through his intelligence. (40)

When they became secularized the technical skills were not given the status of applications of science. They became established as a set of traditional methods and practical skills whose effectiveness was no longer considered as anything but natural, but which lent themselves neither to critical reflection nor to innovation.

One might even wonder whether, in this development towards a more positive status, technological thought was not somehow degraded. It did not acquire any greater affinity with rational knowledge, and it appears, furthermore, to have forfeited the dynamism and boldness which belonged to it in more ancient times when the memory of its affinities with magical knowledge had still not quite died out. During the seventh century there does appear to have been, in Asia Minor, an upsurge in technology from which rich developments might have been expected but which was thwarted in continental Greece as soon as it became set in the moulds imposed upon it by the political organization of the city. The figure of the craftsman enjoys higher prestige in Homer than does that of the artisan of the classical period. (41) This decline in the status of the artisan, which is confirmed by the way the relevant terminology developed, (42) corresponds with a transformation in the nature and function of technological activity itself. Originally the craftsmen, who were grouped into brotherhoods similar to certain religious *génè*, were itinerants who were summoned into the service of a noble clientele. They made luxury articles, precious works such as the *agalmata* in which L. Gernet has shown that a mythical notion of value is still present. (43) Through the choice of material, formal beauty, and the perfection of workmanship, the creation of the craftsman was seen by the person who commissioned it as a testimony of wealth, power, and success. It was not so much a utilitarian object or something to be bought and sold, as a symbol of personal value and social superiority. The brotherhoods of craftsmen which, like those of the diviners and of the bards, guarded their knowledge and secrets most jealously, risked their reputations in competition to produce the most prestigious articles. This *eris*, which is agonistic rather than commercially competitive in spirit, directs one stream of technological activity toward the production of extraordinary works of a kind to arouse astonishment

and admiration. (44) Psychologically, the ancient craftsman was close to the miracle-worker in that he strove after what was exceptional and after a deed that would ensure him victory in a technical competition.

During the classical period the attitude was quite different. In the first place, the city condemned luxury and favoured an ideal of austere severity, even in style of dress. (45) Ostentation and extravagant expenditure, which were the privilege of the aristocratic families, were frowned upon in the name of civic equality. Furthermore, in the new social order the artisan was relegated to a position that corresponded to his function in the state, and confined to a subordinate role. The itinerant craftsman who was a somewhat peripheral figure, disturbing but at the same time prestigious, became a sedentary workshop owner. His business was no longer to dazzle people with his marvellous productions but to bring articles for everyday use to sell in the *agora*, as a means of earning his living. His role appears not so much craftsmanlike or creative in the true sense of these terms, but rather one concerned with commerce and exchange. (46) He provides his fellow-citizens with the useful articles which they need. He is no longer expected to amaze, or be inventive, simply to do his job correctly by applying the rules of his craft.

In these circumstances it is not surprising that the spirit of inventive craftsmanship and ingenuity, the resourceful *metis* which used to be the most important feature of technological intelligence, appears to have foresaken the blacksmith's forge and the cobbler's workbench. (47) In the age of the city, *metis* is the inspiration for the tricks, skills, and methods of other men. It serves the Sophist who is never at a loss for an argument, always with an answer to everything, who sometimes, as Gorgias does, assumes the role of the miracle-worker and word-magician; (48) and also the engineer, such as Philo, who takes over the traditions of *thaumata* from the craftsman. As for the ordinary artisan, the χειροτέχνης, the manual labourer, who, unlike the ἀρχιτέκτων, does not have the leisure to study mathematics, all that is now left to him is a routine craft.

Even within his professional activity, the essentials do not fall within his competence. The rules of his *technè* concern the manufacturing methods, the *poièsis*; the creation itself, the *poièma*, which is the goal of his work, is beyond him. In the eyes of the Greeks it had in fact nothing to do with the strictly technological sphere. Whether it was a matter of houses, shoes, flutes, or shields, the product answered a specific natural need.

So it was not seen as something artificial, in the true sense of the term. (49) It was an *eidos*, a form laid down in advance, just as was the case for natural objects. The artisan did not invent it nor could he alter it. As an artisan, he was not even equipped to understand it. The user, not the producer, possessed the knowledge of the form of the object made. (50) Form is superior to the workman and to his *technè*, and it directs and controls the work which brings it into being. It gives this work its goal, fixes its limits, defines its framework and its means. In art as in nature the final cause is what determines and rules the productive process as a whole. The efficient cause - the artisan, his tools, and his *technè* - is nothing but the instrument by means of which a pre-existent form fashions matter.

With regard to the work of the artisans even more than to that of the engineers, Greek thought remained permeated by naturalistic images and dynamic concepts. The artisan was not seen as he is in Descartes, as a mechanic whose product can contain nothing other than that which he has put into it, it being understood that the perfect form that the machine embodies, in fact, has to pre-exist in the mind of the workman who conceived it. For the ancients, the artisan is a man who orders material that is itself impenetrable to mind, by embodying in it a form which is superior to his own mind. The work produced is more perfect than the producer; the man is dwarfed by his task. Being thus outstripped by the very work that he produces, the artisan is not in command of nature; he submits to the requirements of the form. His work demands from him neither a spirit of initiative nor reflection. His function and his excellence is, as Aristotle puts it, to obey. (51)

Our remarks sprang originally from our noticing what appeared to be a paradox, that is, that there was a block in Greek technological thought at a point when it seemed to be taking shape and developing its own essential features, thanks to the Sophists' reflections on *technè*. Yet in the various contexts where we have been able to grasp its character, we have found it quite unlike technological thought today, different both in its structure and in its emphasis. It had not yet acquired the features which, in our eyes, define technical intelligence and provide its dynamic. It was not integrated with science, or only partially so. The experimental method had no place in it. As it did not develop the concepts of natural law, physical mechanics, or the essentially artificial character of technology, it was not equipped with the

conceptual framework which could have ensured its progress. Furthermore, only in the work of the Alexandrian engineers, especially Hero, is there any evidence of interest in the instruments and machines as such, and only here was their construction undertaken with an attitude that we should describe as truly technological. Previously theory had had other preoccupations and it remained an integral part of mathematical and logical thought.

In the Sophists, in particular, there is no question of there being a genuinely technological framework to their thought. Their teaching took no account of artisan activities; it was not concerned with the methods of operating on matter. (52) *Praxis* was their domain, and they specifically contrasted it to the *poièsis* of the artisan. (53) When they presented their purely human, positivist, and rational inspiration to replace blind chance and the super-natural inspiration of the oracles, what they had in view was the general conduct of life, political activity, and human relationships. Admittedly, they claimed to regulate and codify action and to teach techniques for success. But for the Greeks of the fifth century acting did not mean making objects or transforming nature. It meant influencing men, overcoming them, dominating them. Within the framework of the city, speech was the instrument most necessary for action and mastery of it gave you power over others. The Sophists' reflections on human *technè*, on the means of extending one's power and perfecting one's tools, led to neither technological thinking nor to a philosophy of technology. They led to rhetoric and they established dialectic and logic.

Technological stagnation among the Greeks went with the lack of any truly technological thought. There were two prerequisites for technological progress to get under way: transformations in the political, social, and economic order, on the one hand, and the development of new structures of thought, on the other. It was only after these obstacles were overcome that technology did indeed become established. In constructing machines, it formed its own intellectual equipment.

NOTES

1 'Revue d'histoire des sciences' (1957), 205-25.
2 It applies to the work of the carpenter: Homer 'Iliad' 3. 61; to work with metals: 'Odyssey' 6. 232; 11. 614; 3. 433; and to weaving: 'Odyssey' 6. 110 and 235.

3 The magic fetters that imprison Ares and Aphrodite are the δεσμοὶ τεχνήεντες πολύφρονος ˙ Ηφαίστοιο: the Old Man of the Sea uses the resources of a δολίης τέχνης when he changes his shape (Homer 'Odyssey' 8. 296 and 4. 455).

4 On *metis* as practical intelligence at work in the skill of the artisan as in magic spells, cf. H. Jeanmaire, La naissance d'Athèna et la royauté magique de Zeus, 'Revue archéologique', 48 (1956), 12-40.

5 On the history of the concept of *technè*, cf. R. Schaerer, ''Επιστήμη et Τέχνη, étude sur les notions de connaissance et d'art d'Homère à Platon' (Macon, 1930).

6 In the fourth century, Aristotle classifies technical production as a part of μεταβλητική. In this sense it appears not so much as the manufacture or transformation of things but rather as an aspect of exchange. The work of the artisan falls into the category of μισθαρνία, working for wages ('Politics' 1. 1258b 25).

7 A. Espinas, 'Les Origines de la technologie' (Paris, 1897). On the transition, in Greece, from unself-conscious technical skill to technology, cf. especially 6-7 and note 1 to 7.

8 P.-M. Schuhl, 'Machinisme et philosophie' (Paris, 1947), xiii and chapter 1.

9 Cf. R.J. Forbes's article in 'A History of Technology', 2: 589 ff. The introduction of the watermill, towards the third century AD, begins a new age of technology in which motive power is supplied by machines. On the Greek contributions and inventions in the technical sphere, cf. E. Meyerson, 'Essais' (Paris, 1936), 246 ff.

10 The technology of the *organon*: Espinas, 'Les Origines', 75-156; the age of the tool: Schuhl, 'Mechanisme', viii; eteotechnology: Lewis Mumford, 'Technics and Civilization' (New York, 1946); man's techniques in adapting to things: A. Koyre, Du monde de l''à-peu-près' à l'univers de la précision, 'Critique' (1948), 611.

11 Homer 'Iliad' 18. 373 ff. and 417 ff.; 'Odyssey' 8. 555-65.

12 Espinas, 'Les Origines', 45 ff.

13 Cf. G. Friedmann, 'Où Va le travail humain' (Paris, 1950), 28.

14 Herodotus 3. 60. On the aqueduct of Samos, cf. 'A History of Technology', 2: 667-8, and A. Reymond, 'Histoire des sciences exactes et naturelles dans l'Antiquité gréco-romaine' (2nd edn, Paris, 1955), 186.

15 Plato 'Politics' 259e: the ἀρχιτέκτων is opposed to

the ἐργαστικός and is superior to him because he contributes to the piece of work a theoretical knowledge, based upon calculations. The same opposition is to be found in Aristotle 'Metaphysics' 981b 30.

16 Aulus-Gellius 10. 12.

17 Hero 'Baroulkos' 4. The author mentions a certain number of methodological rules: one proposition cannot contradict another previously demonstrated; research work must take as its starting point that which is evident and that of which the cause is evident; anyone who desires to make progress in the discovery of causes must take as his starting point one or several physical principles and relate to them all the questions that arise.

18 Hero's 'Baroulkos' gives perfectly clear and precise information of a quite remarkable technical ingenuity on how to secure blocks of stone to be lifted by cranes and on safety measures for avoiding accidents.

19 Ctesibius invented the fire engine, the hydraulic organ, and a number of war machines. He perfected the waterclock. Hero was familiar with the screw press; cf. A.G. Drachmann, Ktesibios, Philon et Heron, 'Acta historica scientiarum naturalium et medicinalium' (Havniensis, 1948), volume 4.

20 Cf. Espinas, 'Les Origines', 86; A. de Rochas, 'La Science des philosophes et l'art des thaumaturges dans l'Antiquité' (Paris, 1882); Schuhl, 'Machinisme', 8.

21 Cf. E. Meyerson, 'Essais'; Schuhl, 'Machinisme'; V. Chapot, Sentiment des anciens sur le machinisme, 'Revue des études anciennes' (1938); R.J. Forbes, The Ancients and the Machine, 'Archives internationales d'histoire des sciences', 8 (1949), 919-33.

22 A. Koyré, 'Critique' (1948), 806-23.

23 Cf. E. Dupréel, 'Les Sophistes' (Neuchâtel, 1948), 38-45; J. de Romilly, 'Histoire et raison chez Thucydide' (Paris, 1956), 180-6.

24 Aristotle 'Rhetorica' 2. 1402a; cf. also Aristophanes 'Clouds' 112 ff. (quoted by de Romilly, 'Histoire', 184).

25 ἐν οἷς τά τε ἐλάττοντα κρατεῖ τῶν μειζόνων ('Mechanica' 847a 22).

26 Aristotle remarks that craftsmen use this property of the circle when, in order to produce a θαυμαστον, they place in temples series of iron discs turning on one another by means of friction, some of the disc being kept invisible from the public ('Mechanica' 848a 30).

27 Καὶ τοῦτο εὐλόγως συμβέβηκεν· ἐκ μὲν γὰρ θαυμασιωτέρου συμβαίνειν τι θαυμαστὸν οὐδὲν ἄτοπον, θαυμασιώτατον δὲ τὸ τἀναντία γίνεσθαι μετ' ἀλλήλων.

28 Historical thought among the Greeks, like their technological thought, owes a debt to logic and dialectics. I. Meyerson writes: 'The succession of events is logical in Thucydides.... For Thucydides time is not chronological; it is, so to speak, logical.' He refers to remarks made by de Romilly, according to whom the account of a battle in Thucydides is a theory and the victory a verified conclusion, and then adds: 'The world of Thucydides is a world rethought, and his history is an enacted dialectic', Le temps, la mémoire, l'histoire, 'Journal de Psychologie' (1956), 340. Even medical thought, although very highly developed, did not entirely shake itself free from the limitations imposed upon it by oral discussion and confrontation. L. Bourgey notes that the practice of making speeches on medical subjects was general, and that on this account eloquence originally exerted considerable power over medicine:

> It was not just that they had to compose fine eloquent speeches, but they had also to confront their adversaries successfully. Very often, after a particular thesis had been presented, another doctor took the floor in support of the opposite thesis, or else the orator was directly cross-examined and was obliged to answer a host of detailed questions, 'Observation et experience chez les médecins de la collection hippocratique' (Paris, 1953), 114 ff.

This primacy of the speech was naturally especially marked in the thought of Sophistic doctors. It was justified, for them, by the theory according to which the principle of disease is invisible to the eye and only manifest to reasoning, λογξσμός. The empirical strain in Greek medicine maintained, in contrast, that the true criterion of medical truth lay in seizing upon indications directly through the eyes, for all that exists must be able to be seen and known (cf. Bourgey, 'Observation', 117). Here we find, once again, the opposition, traditional to Greek thought, between φανερά and ἄδηλα, things visible and things invisible - the former arising directly from *empeiria* while the latter call for a different exercise of the mind, whether it be a question of inspired guesswork or of pure reasoning (cf. P.-M. Schuhl, Adèla, 'Annales de la Faculté des Lettres de Toulouse', 1 (1953), 86-94, and L. Gernet, Choses visibles et choses invisibles, 'Revue philosophique' (1956), 79-87). Now, in his 'Baroulkos', Hero emphasizes that, at the base of all the difficulties in mechanical

problems and of the obscurity that surrounds the investigation of causes in this science, lies the fact that one cannot actually see the forces at work in heavy bodies nor how they are distributed. Since these forces belong to the sphere of the invisible, it is inevitable that λογισμός, reasoning, is the dominating force in mechanics.

29 'Cette abstention s'explique, pensons nous, par les difficultés logiques que soulève la notion de mouvement,' Reymond, 'Histoire', 204.

30 Philo 'Mechanics' 4. 3. It is not possible to understand everything in such matters, λόγῳ καί μεθόδοις.

31 Schuhl, Adèla, 16.

32 Drachmann rightly notes the eclectic nature of the theoretical considerations in Hero's 'Pneumatics'. In Hero, the machines are no more used to illustrate the interplay of natural laws than natural laws (except for a few exceptions) are used to explain how the instruments work. Theory provides principles of explanation that have a general application. There is no concept of precise physical laws, nor that of an experimental apparatus for verifying them. This is not a treatise on applied physics, but rather a collection of ingenious techniques (Ktesibios, 161).

33 Hero's attitude is already different in this respect. Unlike Philo, only once (at l. 9) does he refer to the 'surprise' quality of his construction. He is struck, not so much by the 'marvellous' character of the machine as by the ingenuity it displays and by it as a solution to a technical problem, without reference,to its possible utility; cf. Drachmann, Ktesibios, 161.

34 Plutarch 'Life of Marcellus' 17.

35 Cf. Koyré, 'Critique', 627-8.

36 This apprenticeship was, at the most, a *doxa*. It only shared in knowledge by virtue of the place it accorded to calculation, measurement, and weight; cf. Plato 'Philebus' 55e; 'Theatetus' 176c. The term τέχνη, which originally was applied to scientific knowledge as well as to the experience of the artisan, could, after Plato, be used in opposition to true science: ἐπιστήμη.

37 This was a purely practical apprenticeship of a still secret nature which the artisan imparted to his son or to the son of a friend; quite different from a theoretical education, cf. Plato 'Protagoras' 328a and 323d; Xenophon 'Oeconomicus' 15. 11.

38 Aristotle 'Politics' 1258b 36; 'Nichomachaean Ethics' 2. 1104a 9.

39 Plato 'Republic' 2. 370b and 374c.
40 The Sophist, whose teaching concerns *praxis*, the general conduct of life, not *poièsis*, making, could claim to recognize the right opportunity and to teach the art of using it. He presents himself as the master of the *kairos*, while the artisan is its slave.
41 Cf. A. Aymard, L'Idée de travail dans la Grèce archaique, 'Journal de Psychologie' (1948), 29-45.
42 In a lecture delivered at the École Pratique des Hautes-Etudes, Gernet pointed out that the use of the term χειρῶναξ, which retained the idea of a mastery in reference to the artisan, had died out by the middle of the fifth century. In the classical period the word seldom retains a favourable meaning. It tends increasingly to be associated with the idea of a subordinate and despicable craft. It is to be found naturally linked with the term βάναυσος which evokes the use of a purely physical force, in its crudest form. Cf. Plato 'Republic' 405a and 490c; Aristotle 'Politics' 1277b.
43 L. Gernet, La notion mythique de la valeur en Grèce, 'Journal de Psychologie', 415-62.
44 During the age of the city, *eris* still exists in those arts that have an aesthetic as well as a utilitarian character, such as the ornamentation on luxury vases, in pottery.
45 Cf. Thucydides 1. 5, 3 and 4.
46 See above, p. 233, n. 6.
47 Jeanmaire has shown how the portraits of Eros in Plato ('Symposium' 203d) made it possible to pinpoint the form of intelligence that characterized *metis* (La naissance, 24 and 25). From his father, Poros, son of Metis, Eros inherits a resourceful mind, and an intelligence that is fertile in inventiveness: 'a famous hunter, always weaving some stratagem; desirous and competent of wisdom, throughout life ensuing the truth; a master of jugglery, witchcraft and artful speech.' But is *metis* still an 'artisan virtue' to Plato? It would seem not. Plato, in the same text (203a), specifically contrasts the kind of men called 'daemonic' because they are inhabited by daemons such as Eros, and thus have access to the knowledge of things divine, with those whose knowledge is connected with a special science or a manual skill, and who are merely artisans.
48 Cf. Gorgias 'In Praise of Helen' 32 ff.
49 See above, p. 217.
50 Plato 'Republic' 601c; Aristotle 'Politics' 1282a 17.

51 It is the man who possesses φρόνησις who gives the orders; the artisan who has no φρόνησις is bound to obedience; Aristotle 'Politics' 1277b 29.

52 Even in the case of a man such as Hippias, who appears to represent the ideal of polymathy, teaching was not held to have anything to do with artisan crafts. When he boasted of having made with his own hands everything he was wearing, including both clothes and shoes, he was proclaiming his *autarkeia*, his self-sufficiency, in the same way as the Cynics, rather than declaring an interest in technical matters.

53 Cf. Plato 'Charmides' 163 b-d; Dupréel, 'Les Sophistes', 133.

Part Five

The Psychological Category of the Double

13 The Representation of the Invisible and the Psychological Category of the Double: The Colossos

I should like to show, by taking one particular example, how the Greeks gave a visible form to certain powers of the beyond belonging to the sphere of the invisible.

The nature of these sacred powers appears to be closely connected with the way in which they are represented. In religious symbolism, as in all kinds of symbolism, it is through and by means of forms that thought constructs its objects.

The example I have chosen is that of the colossos. Originally the word conveyed nothing about size. It did not refer to effigies of gigantic, 'colossal' dimensions as it later came to do for purely accidental reasons. In the terminology of Greek sculpture which is, as Benveniste has shown, varied and shifting, (2) the term 'colossos' which is not neuter in gender and whose origins are pre-Greek, is connected with the root *kol-* which is associated with certain place names in Asia Minor (Kolossai, Kolophon, Koloura), and which retains the idea of something erected, something that has been set up. (3)

This is what appears to distinguish the colossos from other archaic idols - the *bretas* and the *xoanon*, for instance - whose appearance is, from many points of view, similar, with their rigid posture and their arms and legs welded to the body. But the *bretas* and *xoanon* seem to have been almost always movable. They were moved from place to place, carried in processions, even held directly in the arms of the priest or priestess, in fact they were what one could term 'portable' idols. (4) The fundamental characteristic of the colossos, on the other hand, is that it is fixed to one spot, immobile. (5) It was made in two forms, as a pillar-statue or as a menhir-statue, consisting of an upright stone or a stone slab planted in the earth, sometimes even buried in it.

The few texts that have come down to us on the colossoi

help to throw light on the archeological evidence that allows us to determine what the function and symbolic meaning of these idols were.

At Midea (now known as Dendra), a cenotaph dating from the thirteenth century BC contained, instead of skeletons, two blocks of stone lying on the ground, one larger than the other, both roughly hewn into the shape of quadrangular slabs tapering toward the top to indicate the necks and heads of human figures. One was a man, the other a woman. (6) The colossos buried in this way, in an empty tomb, alongside the objects belonging to the dead person, was there as a substitute for the absent corpse. It took the place of the dead man.

This practice of substitution was in keeping with beliefs with which we are familiar. When a man who has gone far away appears to have disappeared forever, or when he has perished without it being possible to bring back his body or carry out the funerary rites for him, the dead man - or rather his 'double', his *psuché* - is compelled to wander endlessly between the world of the living and that of the dead. He no longer belongs to the former while he has not yet been relegated to the latter. (7) His ghost therefore harbours some dangerous power that manifests itself in mischief directed against the living.

When a colossos is used as a substitute for the corpse, in the tomb, it is not meant to reproduce the features of the dead man or to create the illusion of his physical presence. What it embodies in permanent form in stone is not the image of the dead man but his life in the beyond, the life that is opposed to that of living men as the world of night is opposed to the world of light. The colossos is not an image; it is a 'double', as the dead man himself is a double of the living man.

However, the colossos is not always relegated to the darkness of the tomb. The naked stone may also stand erect in the daylight, over the empty tomb, in some lonely and deserted spot that is so wild that it is said to belong to the powers of the underworld. One example was at Phlius, on the cenotaph raised to Aras and his children. Another is at Lebadeia where, in a wood untouched by human hand, a stone slab with neither inscription nor carved image was raised over the pit of Agamedes: Trophonius had been swallowed up in the opening of the *bothros* and had disappeared into the depths of the earth, and here rites for the evocation of the dead were celebrated. The prescribed libations were poured over the stele as was the blood of a black ram; then those present called thrice to the dead man by name, fixing their gaze upon the stone where, it was believed, he would reappear. (8)

Thus the same squared stone that was used at Midea to separate the dead man from the living by relegating him forever to his underground resting place can also, when erected above ground, make it possible to establish contact with him. Through the colossos the dead man returns to the light of day and manifests his presence in the sight of the living. It is a peculiar and ambiguous presence that is, at the same time, a sign of absence. By making himself visible in the stone the dead man also reveals himself as being not of this world.

At Selinus a whole stretch of land beyond the walls was devoted to the powers of the beyond. (9) Within an enclosure, leaning against the *peribolos* of Zeus *meilichios*, Zeus of the underworld, (10) a large number of roughly hewn *cippi* with human faces, both male and female, were stuck into the ground. Two inscriptions found at Cyrene tell us what we need to know about these colossoi - that the people of Selinus planted them in their field of the dead where they also left *tabulae defixionum* addressed to the subterranean deities, together with the meals that were due to the deceased.

The first is the text of the sacred law concerning the welcome to be given to suppliants arriving from foreign parts. (11) If the person the suppliant claims to come from has died, whether in his own country or in some other place, and if the master of the house, taking the suppliant into his home and granting him his protection for the future, knows the name of the sender, the master of the house invokes the latter by name for three consecutive days. If he does not know the identity of the sender, he pronounces the formula: 'Human being, whether you be man or woman'. He makes two colossoi out of wood or earth, one of a man and the other of a woman. He welcomes these to his table and gives them a share of all the food served. Having thus set in order his relationship with the anonymous dead person who sent the suppliant to him, the master of the house sends the dead person away from his home back to the world of the dead: once the rites of hospitality have been completed he takes the colossoi and the portions of food to a wood that has not been cut and there plants the colossoi in the ground.

The second inscription reproduces the text of the oath guaranteeing the reciprocal obligations between the colonists setting off for Cyrene in Africa and their fellow citizens remaining behind in the metropolis of Thera. (12) The method of taking the oath is as follows: colossoi are made, this time of wax; these are thrown into a fire while the following formula is pronounced: 'Let whoever breaks this oath be turned to liquid and disappear, himself, his descendants and all his goods.'

In both these rituals the colossos makes the journey between the world of the living and that of the dead. But in the first case the journey is made in one direction and in the second it is made in the other. In one case the dead are made present in the world of the living; in the other, the living are themselves projected into death. In the ritual of the suppliants it is a question of establishing a link of hospitality with an unknown dead person, either a man or a woman. As in the rites of evocation, the *psuché*, responding to the thrice-repeated call, rises once more to the light of day and becomes present in the colossos, which thus fixes it inside the house. When the communal meal is completed, the presence of the dead person is removed by setting up the colossoi in the ground of an uncultivated wood, the symbol here on earth of the other world. In the second case, it is, in contrast, a matter of the living irrevocably pledging themselves to death should they ever break their oath. Through the colossoi who represent them in the form of doubles, those swearing the oath cast themselves into the fire; this act anticipates their own life and social existence being liquefied and disappearing into the invisible. (13)

However, in both cases the colossos, as a double, appears to be associated with the *psuché*. It is one of the forms that the *psuché* - which is a power from the beyond - can adopt when it makes itself visible to human beings.

So for the Greeks the colossos and the *psuché* are closely related. They fall within a category of very clearly defined phenomena to which the term εἴδωλα is applied. As well as the *psuché*, which is a shade, and the colossos, which is a crudely formed idol, this category includes, for instance, the dream-image (ὄνειρος), the shade (σκιά), and the supernatural apparition (φάσμα). (14) These phenomena, which, to our mind, are so different from one another, are associated because, in the cultural context of archaic Greece, the mind apprehends them as equivalent and they possess a similar significance. It is therefore justifiable to speak of a true psychological category where they are concerned - this is the category of the double and it presupposes a different conceptual framework from our own. A double is not at all the same thing as an image. It is not a 'natural' object, but nor is it simply a product of the mind. It is not an imitation of a real object or an illusion of the mind or a creation of thought. The double is something separate from the person who sees it, something whose peculiar character sets it in opposition, even in appearance, to familiar objects in life's ordinary setting. It

exists on two contrasting planes at the same time: at the very moment that it shows itself to be present it also reveals itself to be not of this world and as belonging to some inaccessible, other, sphere.

This is the case with the εἴδωλον of Patroclus, for example. Achilles sees it rising up before him when he goes to sleep after a long night of mourning, during which, keeping watch alone, with his soul overcome with πόθος (the nostalgic desire for the absent one), he has not ceased to keep the memory of his dead friend present in his mind. The εἴδωλον stands upright above the head of the recumbant Achilles, as happens in the case of a dream, an ὄνειρος; but it really is the *psuché* of Patroclus. What Achilles beholds before him is Patroclus himself, with his own bearing, his eyes, his voice, his body, and his clothing. Yet when he tries to embrace him, the εἴδωλον proves impossible to grasp: it is a wisp of smoke that vanishes beneath the ground with a little cry like that of a bat. (15) So the εἴδωλον has something of the effect of a trick, a deception, a snare, ἀπάτη: it is the presence of his friend, but it is also his irremediable absence; it is Patroclus in person, yet at the same time simply a breath of air, a wisp of smoke, a shadow, or a bird taking wing. (16)

The archeological and epigraphical evidence that we have referred to has thrown some light upon the aspect of the colossos acting as a double and its links with the *psuché*, which necessarily has a somewhat ambiguous character, since it belongs both to the visible world and to the beyond. There is a text from Aeschylus's 'Agamemnon' that confirms that the colossos must be considered in the psychological context relevant to the experience of the double, and that, on a religious level, the significance of the menhir-idol is determined by the fact that the Greeks understand it to belong to this same category. The chorus is describing Menelaus's palace, now deserted by Helen who has gone away, following her lover. (17) Never has the presence of this woman weighed so heavily upon this house as since she has left it. Through the power of the πόθος, the love-stricken longing Menelaus feels for his absent wife, Helen's ghost constantly haunts it. This it does in three types of double, which the chorus mentions in turn. The first is the φάσμα which now seems to reign over the palace in the place of the departed wife. Then there are the colossoi - accurately translated by C. Picard as 'replacement figurines', which are used in magic concerned with love to evoke the absent one, as they are also used, in funerary rites, to evoke the person who has died. (18) Finally, there are the

dream figures (ὀνειρόφαντοι) that appear in sleep. The sole effect of all these doubles that, for Menelaus, are substitutes for his wife, is to make the gap left by her absence all the more poignant and unbearable. They lack the quality that makes Helen a real woman: *charis*, the dazzling brilliance of life. All these εἰδωλα of Helen, the ghost, the colossos, and the dream figure, bring her husband the disappointment of a constantly elusive presence which manifests itself only to take flight once again. Under the seductive mask of Aphrodite, it is unattainable Persephone who can be glimpsed in the loved woman's double. (19)

One could take as a commentary to this text from Aeschylus Euripides's lines from the 'Alcestis' which read almost as a pastiche on the same theme. Alcestis is preparing to descend into the underworld. Her husband, Admetes, whose life she is ransoming at the cost of her own, swears to her that he will mourn her forever and will never love another woman. He will continue to be united with Alcestis each night, in his dreams. And he will have an effigy made of her which he will place in his bed. He will lie down beside it and embrace it, calling the name of his beloved. Thus he may believe that he is holding in his arms his wife who is present although absent: καίπερ οὐκ ἔχων ἔχειν. (20)

In this extraordinary relationship, his soul (*psuché*) will doubtless feel not warm pleasure but a cold (*psuchron*) delight, for what is the *psuché* if not a cold shade? (21)

Admetes's words call to mind a legend which Euripides knew well and which had inspired another of his tragedies: 'The Protesilaus'. Protesilaus meets his death near Troy, in a far-off land, and his body cannot be brought back to his fatherland. He leaves behind him an inconsolable widow. In the version of the story given by Apollodorus, (22) the wife, whose name is Laodamia, makes an εἴδωλον of her husband. Each night she makes love with this double. The gods take pity on her and send the *psuché* of Protesilaus back to his loving wife for a moment. In the version given by Hyginus, (23) the figurine fashioned by Laodamia is made of wax. Her father, having found out what his daughter is up to during the night, orders the effigy to be cast into the fire. Laodamia throws herself in after it, in order to follow Protesilaus into the beyond. The two versions of the myth are examples of the two different uses the colossoi were put to, depending on the material from which they were made, that we have already noted in the rituals carried out at Cyrene. But whether of stone or wax, and

whether used to bring the shades of the dead back to the light of day or to send those living in this world down among the shades, the colossos, as a double, always established a link between the living and the underworld.

There is, however, one problem. How could a stone, fashioned and set up by the hand of man, have the significance of a double and thus be like such uncontrollable and mysterious psychic phenomena as dream figures and supernatural apparitions? How is it that a roughly hewn slab of stone can, in certain circumstances, also appear to be twofold and ambiguous, with one face turned toward the invisible? What is it about the colossos that makes it stand in such contrast to the world of the living that it seems to introduce into the earthly landscape where it has been erected not simply a stone, something that is familiar, but the power of death itself together with all the unusual and terrifying features that go with it? In seeking for an answer, we must refer to the religious representations that characterize the specifically Greek view of the world, with the correspondences and oppositions that these representations establish among the different aspects of reality. Like every sign, the colossos refers to a whole system of symbolism from which it cannot be isolated. It is only within the context of this overall conceptual framework that we can understand how it has a close affinity with death and the dead.

Let us first emphasize certain aspects of this affinity. First, in Greece the oath which operates by pledging those swearing it to the powers of the underworld can be made by simply touching an unhewn stone: the oath is sworn 'by the stone'. (24) Second, it is the head of the Gorgon that Persephone sends to meet those who desire to enter as living men into the realm of the dead, and the Gorgon is a magical instrument of death who changes anyone who looks upon her into stone. (25) There are a number of indications to show that death was seen as a petrification of living beings. Pindar, for example, uses the expression λίθινος θάνατος, the stony death. (26) It is no doubt easy to understand these symbolic associations when one thinks of the transformation of the living body - supple, animated, and warm - into a stiff, silent, icy corpse. But we must pinpoint more precisely each of the features that, by setting life and death in opposition, term for term, defines them in relation to each other, at the same time establishing the boundaries of their respective domains.

First, in contrast to the world of sound with its voices, cries, and songs, death is the world of silence. There were certain priestesses, charged with looking after

the funerary rites in which all music was forbidden, who were known as the 'silent ones'. (27) To animate a statue, made of stone or clay, and breathe life into it after having fashioned it - as in the case of Hermes making Pandora come alive, or of the living statues in the service of Hephaestus - is to give it a voice, a *phônè*. (28) Thus, Theognis, thinking of the time when he will be buried, lifeless in the earth, writes that he will be ὥστε λίθος ἄφθογγος, like a stone without a voice. (29) Conversely, metallic stones which give forth a sound when they are struck as if they were of bronze, or pottery that makes a crackling noise in the kiln when it is fired, are considered to be animated and alive since they are not enshrouded in the silence which is common to dumb stones. The coldness of stones is also related to death. As opposed to the warmth of the living, the *psuché* suggests the cold, *psuchron*.

In that it is hard, dry, and rigid, a stone may appear as a desiccated living man, who is moist, supple, and full of sap so long as he is in the prime of life. For the Greek, old age is, already, desiccation. The young man is like a plant, full of sap in its greenness, but which becomes dry and faded in time. A gloss by Hesychius comments on the word ἀλίβαντες, with the two terms νεκροί and κολοσσοί: the 'dried up ones' are the dead, the colossoi. (30) Furthermore, the *psuchai* of the dead are parched with thirst. It is by watering them with the various liquids of the living that they can be drawn back to the light of day and that a reflection of their former vitality can be restored to them for a moment, together with memory and thought.

But the fundamental opposition is between the visible and the invisible. Death, or Hades, is, precisely, the invisible (ἀϊδής), and what the Greeks call the 'helmet of Hades', the κυνῆ, confers invisibility upon the wearer. The dead are figures 'clothed in night'. Now, given the correspondence that exists between the faculty of sight and the property of being visible - both of which are associated with the light of day - the disappearance of a living man from the world of light and his entrance into the world of night can also be expressed by the image of his transformation into an unseeing block of stone. In contrast to a precious stone which is alive in that it shines and reflects the light or allows itself to be entirely flooded with light, (31) the block of dull and opaque stone, the colossos with its 'empty eyes' that Aeschylus refers to, (32) can be seen as representing the world of night. There is an affinity between the dead man's *psuché* which is an invisible mist or a dark shade,

and the stone which is visible but opaque and blind. It arises from the fact that both are opposed to the realm of light and life which is characterized by two properties: seeing and being seen. (33)

Stone and the *psuché* of a dead man are both also contrasted with the living man, the former by reason of its immovability and the latter by reason of its elusive mobility. The living man moves about, upright on the surface of the ground, his feet remaining constantly in contact with the earth. The colossos, sunk into the earth, rooted deep into the ground, remains fixed and immobile. Hesychius's gloss, referred to above, has sometimes been read replacing the word ἀλίβαντες by ἄβαντες: 'who do not walk.' In the true sense of the term, colossoi are those who cannot move their legs in order to walk. As for the *psuché*, it moves about without ever touching the earth; it flits beneath the surface of the ground, forever in movement and forever elusive. Thes the colossos and the *psuché* are opposed to the walk of a man, representing two extreme positions in relation to an intermediary one: being embedded in the earth (the colossos); being in contact with the surface of the earth (the living man); having no contact with the earth (the *psuché*); total immobility (the colossos); moving about from one place to another, successively occupying a series of positions on the surface of the ground, the same individual being at each instant in one place and one place only (the living man); a ubiquitous presence throughout space (the *psuché*). But where mobility is concerned, the link between the colossos and the *psuché* arises not only from the fact that they are, as extremes, closer to each other in some respects than to the intermediate position represented by the living man. (34) Their antithetical features appear to express, in this case, the link of correspondence that it is the purpose of the rite of the colossos to establish with the *psuché*. By embedding the stone in the ground, the intention is to fix, immobilize, localize in one definite spot of the earth, this elusive *psuché* that is at the same time everywhere and nowhere.

The story of Actaeon is revealing in this connection. When Actaeon died he was never buried. His εἴδωλον, his ghost, stirred up all sorts of mischief against the population. The oracle of Delphi was consulted. It commanded that an effigy be made of Actaeon and that it should be bound with chains of iron to the very stone where the ghost appeared. The order was carried out, and the statue duly erected and chained to the stone. The soul of Actaeon, which was now fixed to one place, thereupon ceased to persecute the living. (35)

This example, which belongs to a period when a human likeness had replaced the uncarved stone, shows clearly what the effective purpose of the colossos originally was. It served to attract and pin down a double which found itself in abnormal circumstances. It made it possible to reestablish correct relations between the world of the dead and the world of the living. The colossos has this power to pin down because it is itself ritually embedded in the ground. So it is not just a figurative symbol. Its function is both to translate the power of the dead man into a visible form and to enable it to be integrated into the ordered world of the living. The material symbol cannot be separated from the ritual. It is only through the completion of the rituals that it can assume its full meaning. (36) The symbol is 'activated' by men and itself contains an active force. It has an effective power. The colossos fulfils several complementary functions: it is a visible representation of the power of the dead man, it embodies the active manifestations of it, and it regulates the relationship between it and the living.

One final point should be made. In its role as double, and through its function of mediator between two opposed worlds, the colossos, as symbol, represents in some respects a tension and a kind of oscillation. At times its visible aspect is the more important, at others, the invisible. The subsequent history of the colossos is well known. It was not long before the Greeks forgot about the funerary stone's relationship with the dead, remaining conscious only of its visible form. In the stele raised over a cenotaph or tomb they no longer saw anything more than simple *mnéma*, a sign whose purpose was to recall the memory of someone dead to those still living. Yet a different attitude can sometimes be glimpsed. When the ritual libations have been made and the black ram sacrificed and when those officiating have called the dead man three times by name, it is truly the double that it seen rising above the tomb. (37) In the form of an uncarved stone set in a wild landscape, embedded in the ground, the colossos represents a manifestation of the power of the underworld, in the eyes of the living. Here, perhaps, we are touching upon a problem that goes far beyond the case of the colossos, and concerns one of the essential characteristics of a religious sign. The religious sign is not simply a piece of mental equipment. Its purpose is not limited to evoking in men's minds the sacred power to which it refers. Its intention is always also to establish a true means of communication with this power and to really introduce its presence into the human world. But while it thus aims, so to speak, to

establish a bridge with the divine, it must at the same time emphasize the gap, the immeasurable difference between this sacred power and anything that attempts to manifest it, perforce inadequately, to the eyes of men. In this sense, the colossos is a good example of the tension which is to be found at the very heart of the religious sign, and which gives it its peculiar character. In effect the colossos's function is to establish a real contact with the beyond and to bring about its presence in this earthly world. Yet, in so doing, it at the same time emphasizes all the elements of the inaccessible, the mysterious, and the fundamentally foreign that the world beyond death holds for the living.

NOTES

1 Talk given at the conference on 'Le Signe et les systèmes de signes', organized by the Centre for Research in Comparative Psychology, Royaumont, 12-15 April 1962.

2 E. Benveniste, Le sens du mot κολοσσός et les noms grecs de la statue, 'Revue de philologie' (1932), 118-35; cf. also P. Chantraine, Grec κολοσσός, 'Bulletin de l'Institut français d'archéologie orientale' (1930), 449-55.

3 Cf. Georges Roux, Qu'est-ce qu'un κολοσσός?, 'Revue des études anciennes' (1960), 5-40.

4 The *xoanon* of Artemis Orthia, in Sparta, was held in the hands of the priestess during the ceremony of the flagellation of youths; the idol was small and light (Pausanias 3. 16, 10-11). The *xoanon* of Thetis, which her priestess Cleo secretly carried on her person from Messenia to Sparta, can have been no larger or heavier (Pausanias 3. 14, 4). The same goes for the *bretas* of Hera, at Samos, whose abduction and discovery in a willow bush near the river bank was enacted each year (Athenaeus 15. 672 ff.).

5 Cf. Georges Roux, Qu-est-ce qu'un, and S. Broc, L'Hermès d'Hiéron à Delphes et le nom de l'Hermès en grec, 'Revue des études grecques' (1963), 39-51.

6 A.W. Persson, 'The Royal Tombs at Dendra near Midea' (Lund, 1931), 73-108; M.P. Nilsson, 'The Minoan-Mycenaean Religion and its Survival in Greek Religion' (Lund, 1950), 600 ff.; and, especially, C. Picard, Le cénotaphe de Midéa et les colosses de Ménélas, 'Revue de philologie' (1933), 343-54, and 'Les Religions préhelleniques' (Paris, 1948), 269 ff. and 291. Menhir-statues similar to those of Midea have been

found at Thera in a tomb, and at Atchana, near one of the town gates.

7 Cf. Homer 23. 70 ff.

8 Cf. P. Guillon, La stèle d'Agmédès, 'Revue de philologie' (1936), 209-35. More generally, on the connections between the funerary stele and the colossos, cf. E. Van Hall, 'Over den Oorsprong van de Grieksche grafstele' (Amsterdam, 1942). On the ritual significance of the ἐπίκλησις, the three calls addressing the dead man by name in a case where the corpse of the dead man has not been recovered, E. Rohde writes: 'The souls of the dead who have fallen in foreign lands must be "called". They will then, if this is properly done, follow the caller to their distant home where an "empty grave" awaits them,' 'Psyche. The Cult of Souls and Belief in Immortality among the Greeks', (New York, 1966), 42.

9 Cf. C. Picard, Le rituel des suppliants trouvé à Cyrène et le champ des 'colossoi' à Selinonte, 'Revue archéologique', 8 (1936), 206-7.

10 At Lebadeia dedications to Zeus Meilichios have been found on hermae topped with omphaloid cones which can be compared with the *cippi* of Selinus. The Zeus Meilichios of Sicyon was represented by an unhewn stone in the shape of a pyramid (Pausanias 2. 9, 6). On the symbolism of Zeus Meilichios, cf. C. Picard, Sanctuaires et symboles de Zeus Meilichios, 'Revue de l'histoire des religions' (1943), 97-127.

11 'SEG' 9. 72: F. Sokolowski, 'Lois sacrées des cités grecques', supplément 115 (Paris, 1962); cf. the translation and commentary by J. Servais, Les suppliants dans la loi de Cyrène, 'Bulletin de correspondance héllénique' (1960), 112-47.

12 'SEG' 9. 3; cf. F. Chamoux, 'Cyrène sous la monarchie des Battiades' (Paris, 1954), 105 ff.; L. Gernet, Droit et predroit en Grèce ancienne, 'L'année sociologique', third series, 1948-9 (Paris, 1951 , 65-6

13 Gernet writes: (Droit, 66) '... if, with the colossos catching fire, something happens immediately, the person making the oath is immediately "committed" by his "double".' The ritual of burning wax figurines is also to be found in an Aramean treaty of vassalage which can be dated to 754 BC, cf. A. Dupont-Sommer, Trois stèles araméennes provenant de Sfiré: un traité de vassalité du VIII^{e} siècle avant J.C., 'Les Annales Archéologiques de Syrie'. 'Revue d'archéologie et d'histoire', 10 (1960), 21-54. The comparison of the Greek and the Aramean texts, which are mutually illuminating, is made by C. Picard, Le rite magique des

εἴδωλα de cire brulés, attesté sur trois stèles araméennes de Sfiré, 'Revue archéologique' (1961), 85-7.

14 As was recognized by T. Zielinski, De Helenae simulacro, 'Eos', 30 (1927), 54-81. On other forms of the εἴδωλα, cf. Eugène Monseur, L'âme pupilline, 'Revue de l'histoire des religions' (1905), 1-23; W. Déonna, L'âme pupilline et quelques monuments figurés, 'L'antiquité classique' (1957), 59-90; Jean Bayet, Idéologie et plastique. L'expression des énergies divines dans le monnayage des Grecs, 'Mélanges d'archéologie et d'histoire' (Rome, 1959), 65-106.

15 Homer 'Iliad' 23. 59-107.

16 The *psuché* is sometimes called smoke, *kapnos*, or shade, *skia*, or dream, *oneiros*.

17 Aeschylus, 'Agamemnon' 410-26.

18 Figurines de remplacement, C. Picard, Le cénotaphe de Midéa et les colosses de Ménélas, 'Revue de philologie' (1933), 343-54. M.G. Roux proposes a quite different interpretation of this passage of the 'Agamemnon', which in our view does not take account of the context where the theme of the double reappears again and again in an almost obsessive way. Moreover, it seems hardly necessary to point out that, in the eyes of the Greeks, the figure of Helen was naturally associated with the theme of the 'double'. It is well known that there were not one but two Helens. The one that Paris abducted and for whom the war was fought under the walls of Troy was not the real Helen but her ghost, an εἴδωλον, fashioned by Zeus or by Hera or by Proteus. According to Stesichorus the true Helen had been spirited away to Egypt (Plato 'Republic' 586b; 'Phaedrus' 243a). But it was also said that she was to be found on the white island, living forever amid feasting and rejoicing, in the abode of the Blessed; cf. V. Pisani, Elena e l'εἴδωλον, 'Rivista di filologia e di istruzione classica' (1928), 481 ff.

19 The absence of Helen, manifested in the presence of vain phantoms in the palace, is matched by the absence of the Greek warriors, manifested, in each stricken household, by the presence of the urns filled with useless ashes in place of the men who were known there when they were alive: 'But in every house from which warriors have departed, overwhelming grief reigns. Every heart is pierced with one unremitting thought. They remember the faces of those whom they saw depart; but to each house urns and ashes return in the place of men (Aeschylus 'Agamemnon' 429-35).

20 Euripides 'Alcestis' 342 ff.

21 Ibid. 353-4. The story of Alcestis takes the form of a purely secular narrative but it perhaps reflects the memory of pre-Hellenic funerary rites, for instance, the practice of placing in the tombs female figurines similar in form to the colossoi, who in the beyond played the role of 'concubines to the dead man', in the manner that Herodotus records in Egypt (2. 129-32). Cf. C. Picard, Les 'colossoi' de Dorak (Anatolie du Nord), 'Revue archéologique' (1960), 106-8; Édouard Dhorme, Rituel funéraire assyrien, 'Revue d'archéologie orientale' (1941), 57-66: M. Rutten, Idole ou substitut, 'Archiv. Orientalni' (1949), 307-9; C. Desroches-Noblecourt, 'Concubines du mort' et mères de famille au Moyen-Empire, 'B.I.F.A.O.' (1953), 7-47.

22 Apollodorus 3. 30.

23 Hyginus 'Fab.' 104.

24 Pausanias 8. 15, 2; Aristotle 'The Constitution of Athens' 7. 1 and 55. 5; cf. Gernet, Droit, 68.

25 Homer 'Odyssey' 11. 634-5. There is also a stone at the confluence of the two rivers of the underworld, marking the entrance to the house of Hades ('Odyssey' 10. 515).

26 Pindar 'Pythian Odes' 10. 75. Stones are also sometimes referred to as the bones of the earth; Ovid 'Metamorphoses' 1. 383; 'Schol. in Apollonius of Rhodes' 3. 1086. Cf. also Pausanias 9. 16, 7 and Pherecydes 'Fr. Hist. Gr.' 1. 82, Muller.

27 The cult of the *semnai* in Athens had to be carried out in silence. It was entrusted to a body of priestesses, the *Hesuchides*, named after the founder of the cult, Hesuchos, the silent one; 'Schol. in Sophocles. Oedipus et Colonus' 489; Jane Harrison, 'Prolegomena to the Study of Greek Religion' (Cambridge, 1903), 243 ff. of the American edition (New York, 1957).

28 Hesiod 'Works and Days' 79; Homer 'Iliad' 18. 419.

29 Theogonis 569.

30 Cf. Roux, Qu'est-ce qu'un; C. Lawson, Περὶ ἀλιβάντων, 'Classical Review' (1926), 52-8; G. Pugliese-Carratelli, Ταρχύω, 'Archivio glottologico italiano', 39 (1954), 78-82.

31 For the Greeks, *charis* emanates not only from women or any human being whose youthful beauty makes the body 'shine' (especially the eyes) with a splendour that provoked love; it also emanates from cut jewels, worked gems, and certain precious fabrics: the glitter of metal, the flash of stones of various waters, the variety of colours of many-coloured woven cloth, the medley of designs representing, in a more

or less stylized form, a scene of plants and animals directly suggesting the powers of life - all these things combine to make the work of the goldsmiths and weavers a sort of concentration of living light from which *charis* shines out.

32 Aeschylus 'Agamemnon' 418. The 'emptiness of the eyes' referred to by Aeschylus in respect of Helen's colossos tallies with Callimachus's phrase describing Tiresias who is blinded by Athena for having seen what no man should see: 'night took his eyes' ('The Bath of Pallas' 82). There is perhaps an even closer connection. At the moment when the goddess deprived him of his sight and the light of the sun, Tiresias 'ἐστάθη δ'ἄφθογγος, ἐκόλλασαν γὰρ ἀνῖαι γώνατα, καὶ φωνὰν ἔσχεν ἀμηχανία.' Standing there without sight, speech, or movement (his legs riveted together), Tiresias himself becomes a kind of colossos, an image of death among the living. But he has his revenge later, when among the dead: amid their inconsistent shades he is the only one to retain his φρένες and νόος, the sense and knowledge that belong to the living ('Odyssey' 10. 493). Like the colossos, the diviner belongs both to the world of the living and to that of the dead. This is the ambiguity represented by the image of the 'blind visionary'.

33 A text from the 'Iliad' gives a striking illustration of this dialectic between the visible and the invisible. At Aulis, before their departure, the Greeks made their sacrifices at the foot of a plane tree. A terrible omen suddenly appears: Zeus summons into the light of day a snake, which emerges from underneath the altar; it falls upon a clutch of sparrows and devours them together with their mother: 'Immediately, the god who made it appear hid it from their eyes (literally: made it invisible); indeed the son of Kronos had suddenly changed it into stone' ('Iliad' 2. 318-19). The associations of the snake, a chthonian animal, with the world of the dead and especially with the *psuché* are well known. By turning it to stone, Zeus, who had summoned it for a moment into the light of day, restores it to the realm of the invisible.

34 There is a comparison in the 'Iliad' that emphasizes this link between the aerial mobility of the *psuché* and the immobility of the funerary stele. Achilles's horses, who are beasts from the underworld, as swift as the wind, suddenly become as still as death, in mourning for Patroclus: 'They are like a stele, forever immovable once it is set up over the tomb of a

dead woman or man. There they remain, just as motionless, heads bowed to the ground' (Homer 'Iliad' 17. 434 ff.; cf. also 19. 405). The horses of Achilles, born of a union between the god Zephyr and the harpy Podargé, the swift one, belong to the group of daemon abductors who spirit away the living, leaving no trace of them behind (cf. Rohde, 'Psyche', 59-60). Once they are still and root themselves to the ground, these spirits of the wind, elusive and invisible, who move about without touching the earth, become images of the stele, just as, conversely, the stele is their immovable counterpart.

35 Pausanias 9. 38, 5.

36 This inseparability of the material symbol and the ritual action is demonstrated most strikingly in the case of the colossoi of Midea. These two quadrangular slabs carry on one of their surfaces a series of cupolas hollowed out of the stone to receive food to be placed there for the dead, probably the *panspermia*. These 'idols' are also tables on which offerings are received.

37 Thus, for example, when evoked according to ritual, the shade of Darius appears to the queen and the Persians 'above the top of his tombstone' (Aeschylus 'The Persians' 659).

Part Six

Personal Identity and Religion

14 Some Aspects of Personal Identity in Greek Religion

We call the great deities of the Greek pantheon 'personal gods', and the expression does not appear to arouse objections. It implies, however, that the Greeks understood the 'person' in the sense that we do today, and that they organized all or a large part of their religious experience around this idea. One of the characteristic features of Greek religion is to give to the powers of the beyond a distinctive individuality and a fully human appearance. But does this make them 'persons' and have the links that unite them with the faithful, in worship, assumed the form of 'personal' relationships? Was the society of the gods, for the Greek, really made up of individual and unique figures - individuals completely defined by their personality, individuals possessing an inner existence, manifesting themselves as the focus and sources of action, as responsible agents? In sum, we must inquire to what extent the individualization and humanization of the supernatural powers imply a concept of personal identity. Which aspects of the ego, of the inner man, did Greek religion help to define and form, and with which, on the other hand, was it quite unfamiliar?

In the context of public worship and the religion of the city, the answer is quite clear. Here, religious life appears an integral part of the social and political life of which it is but one aspect. The priesthood and the magistracy are not different and opposed but rather equivalent and complementary. The priesthood is a magistracy, and every magistracy has a religious side to it. There is no break, no discontinuity between the gods and the city, or between religious qualities and civic virtues. Impiety (ἀσέβεια), wronging the gods, is equally an affront to the social group, a crime against the city. In this context the individual establishes a relationship with the divine through his membership in the community.

The religious agent operates as the representative of the group, in the name of this group, within it and through it. Society always acts as the mediating link between the faithful and the god. It is not a direct connection between two individual personalities but is rather the expression of the relationship which links a god to a human group - a particular household, a city, a type of activity, a certain place in the land. If the individual is banished from the domestic altars, excluded from the temples of his town, and proscribed from the territory of his fatherland, he is thereby cut off from the world of the divine. He loses both his social identity and his religious essence: he is reduced to nothing. To regain his status as a man, he must present himself as a suppliant at other altars, sit at the hearth of other houses, and become integrated into new groups, and, through participation in their worship, re-establish the links that anchor him to the divine.

This type of political religion is so familiar that we need say no more about it. But it does not exhaust the whole experience of Greek religion. One prominent aspect of this experience is the social integration of a civic religion whose function is to consecrate the existing order, both in its human and its natural aspects, and to allow individuals to adjust to it. But this is contrasted with another, complementary, aspect which can roughly be described as the Dionysiac. It is significant that the Dionysiac religion should make its appeal principally to those who do not altogether fit into the institutional organization of the *polis*. It is first and foremost the province of women. (2) Women, as such, are excluded from political life. The religious quality that equips them to play a major role, as Bacchae in the Dionysiac religion, is the reverse of the inferiority with which they are branded in the political sphere, and which prohibits them from participating on an equal footing with men in the direction of the affairs of the city. In the worship of Dionysius slaves too find a place that they are normally denied. (3) Finally, the very terms *thiasoi* and *orgeones*, applied to the colleges of devotees associated with the orgies, recall the rural groups of the original demes. These were opposed to the noble *génè* who lived in the city and controlled the state, and they had a hard fight to gain admittance to the *phratries* of the historical period. (4) Thus, at an early date, the Dionysiac tendency in religion provided a group framework for those who found themselves on the periphery of the recognized social order. Some of the religious titles that applied to the god, such as *eleutherios*, *lusios*, which betray the

same craving for freedom and deliverance, are evidence of this interlocking of the social and religious spheres. Even during the classical period, when it was controlled by the state, the Dionysiac cult offered its faithful a religious experience that was the reverse of official worship: not the consecration of an order into which one must become integrated, but liberation from this order and from the constraints that, in certain respects, it implied. The Dionysiac cult represented a quest for a radically different experience, far removed from everyday life, ordinary occupations, and imposed servitude. It attempted to abolish all restrictions, to do away with all the barriers by which the organized world was defined - boundaries between man and god, the natural and the supernatural, human, animal, and vegetable, social barriers, and the boundaries of the ego. The civic cult corresponded to an ideal of σωφροσύνη, based on control and self-discipline, each creature remaining in its place, within the limits assigned to it. In contrast, the Dionysiac religion cultivated delirium and madness: divine madness which meant being taken over and possessed by the god. Through this μανία, man frees himself from the order which, from the point of view of the official religion, constituted the proper domain of the sacred, the *hieron*. Through an experience of ecstasy and inspiration, this order is revealed as merely an illusion with no religious value at all. What the devotee thereafter seeks to attain through intimate contact with the divine is a different state, a state of total sanctity and purity, to which the term ὅσιος is applied, indicating complete consecration, and meaning, in the strict sense, a freedom in respect to what is sacred. (5)

But is this fusion with the god a personal communion? It clearly is not. It is not to be reached in solitude, through meditation, prayer, and dialogue with an internal god, but in a group, in and through the *thiasos*, using techniques of inducing collective hysteria, involving dancing, leaping, singing, and yelling, and wanderings that plunge a man deep into nature in the wild. Besides, being possessed is not the same as communion. (6) The god who suddenly takes possession of a man in the midst of paroxysms of excitement makes him lose possession of himself, 'overrides' him, and even when he has taken charge of him, remains inaccessible and incomprehensible. For Dionysus is a master of magic and illusion; a god of wonders, perplexing and disconcerting, never where he is nor what he is, essentially elusive, the only one of all the Greek deities, it has been said, that no form could embody, no definition encompass because, both within man and in nature, he embodies what is radically other. (7)

So a 'personal' type of relationship between man and god is not to be found in the Dionysiac religion. The mystery religions may, however, prove more relevant to our inquiry. Religious life may have taken a more individual character here. A mystery established a community which was not social, but, rather, spiritual, in which each individual would participate of his own free will, through free association, and regardless of his civic status. The mystery does not only address the individual as such; it also offers him an exceptional religious privilege in that he is selected to be spared the common destiny of man and assured of a better fate in the beyond. It is therefore not surprising to find that communion with the god plays a central part in the organization of the mystery religions. However, the symbolism through which this communion is expressed refers not to an exchange of love between two beings, a spiritual intimacy, but rather to relations of a social or family nature, whereby the initiate becomes the son or adopted child or spouse of the deity. Do these formulas express, in traditional terms, a bond of a truly intimate type? It is difficult to believe that this is the case. We are familiar from the 'royal' legends with the theme of adoption, filial relationships, and sexual unions with the gods. They are used to justify the sacred prerogatives of certain families and as the foundation for religious powers and privileges - blessed immortality in particular - which these families possess by reason of some special familiarity and individual connections with the deity. This divine 'favour' was the prerogative of the noble *génè* of whom some, such as the Eumolpidae and the Kerukae at Eleusis, retained control over the administration of the mysteries. It was this favour that the initiation cults now offered to the public, thus operating a kind of popularization or democratization of what had originally been the exclusive prerogative of a religious aristocracy. The initiations do not appear to have involved spiritual exercises or ascetic techniques of a kind to transform a man from within. They operated almost automatically through formulas, rites, and spectacles. True, the initiate must have felt personally committed in the divine drama, parts of which were represented in mime before his eyes. There are descriptions of him being overwhelmed, passing from a state of tension and anxiety to a feeling of liberty and joy. (8) But there is no indication of any teaching or any doctrine which would have been able to give this emotional moment of participation enough cohesion, consistency, and permanence to turn it into a religion for the soul. Besides, the mysteries, like the Dionysiac reli-

gion, show no particular interest in the soul. They are not concerned to define either its nature or its powers. (9) A doctrine of the *psuché* was to develop in quite different circles, in connection with certain spiritual techniques.

Once again, then, our results are negative, although we may be tempted to qualify them by taking into account certain pieces of literary evidence, such as those provided by Euripides's 'Hippolytus'. (10) There is an element of personal affection in the young man's exclusive devotion to Artemis, and the goddess, for her part, does not fail to respond to this. Between the deity and her worshipper there are bonds of friendship, a passionate intimacy (φιλία), and constant intercourse (ὁμιλία), expressed by the verb συνεῖναι. Although she is invisible, as are all the gods, Artemis is nevertheless present at Hippolytus's side: he hears her voice, he speaks to her, and she replies. However, Euripides is careful to stress the exceptional and unusual nature of this type of relationship with the divine. The very fact that Hippolytus enjoys such an intimacy with the goddess singles Hippolytus out as a special case. He declares to Artemis: 'I alone, of all mortals, enjoy the privilege of living at your side and of conversing with you.' (11) It is a privilege that is not without its dangers. It implies a proud uniqueness in his behaviour, and a way of life that no Greek could approve and that Theseus found easy to associate with the eccentricities of the followers of Orpheus. (12) Hippolytus wants to be pure but with the purity of a god rather than that of a man. His virtue is too haughty and too highly strung. He believes he can deny and despise what constitutes a whole side to human nature. (13) One of Theseus's remarks underlines the extent of the opposition between normal Greek piety and the religious inspiration of Hippolytus. (It is not that normal Greek piety was unacquainted with such inspiration: it was, but saw it as a temptation to be refused; it was something that could find fulfilment only within the sects or be transposed into philosophy.) In line 1080, Theseus reproaches his son for practising an ἄσκησις, which is the reverse of true piety, involving submission to the traditional order of values, in particular with regard to the respect a son owes his parents. He points out that this excessive and forced asceticism - the means, according to Hippolytus, whereby he achieves intimacy with the divine - is in reality nothing other than a cult devoted to himself: σαυτὸν σέβειν. The 'personal' aspect of his son's religious attitude is interpreted by Theseus as necessarily including an element of hubris. And it is, indeed, this

immoderation that is punished by the anger of the gods, through the resentment of the insulted Aphrodite. (14) However familiar Hippolytus claims to have been with Artemis, the last word of the tragedy will maintain and assert the distance between gods and men. Hipploytus has just been brought back, wounded and bleeding. He sees the gates of Hades opening before him. All of a sudden Artemis appears at his side. The young man recognizes her and enters into a last loving and impassioned conversation: 'Oh, my mistress, do you see my wretched state?' And how does the goddess reply? 'I see it, but tears are forbidden to my eyes.' (15) Οὐ θέμις: it would not be in order for the eyes of a god to weep over the wretchedness of mortals. Soon the goddess leaves Hippolytus. She abandons him in the face of death: she has no right to defile her gaze with the spectacle of a dying man or a corpse. (16) So just when Hippolytus needs her divine presence at his side more than ever, Artemis leaves him and withdraws into the divine world which has no knowledge of the all-too-human realities of suffering, sickness, and death. If there can exist such a thing as intimacy, communion, with a god, it cannot operate on the level of the individual's personal destiny, his status as a man. When the decisive moment comes it is not Artemis, but Theseus, now repentant and forgiven, who cradles Hippolytus's head and receives his dying breath. (17)

The case of Hippolytus was a special one, an example of the direct link and loving intimacy that can unite a Greek deity and her devotee. Yet, even in this case, the relationship between the man and the deity seems to be circumscribed in a way that precludes certain essential personal elements. We are therefore prompted to question the relevance of expressions such as 'personal gods' when used in reference to archaic and classical Greece. The Greek pantheon was evolved during a period when the opposition between human beings and natural forces had not yet been formulated, nor the idea of a purely spiritual form of existence or of an inner dimension to man. (18) The Greek gods are powers, not persons. Religious thought is a response to the problems of organizing and classifying these powers. It distinguishes among various types of supernatural powers, each with its own dynamic and mode of action, its own sphere and limitations. It imagines the complex interplay of their hierarchical, balanced, opposed, and complementary relations. It is not concerned with whether or not they exist as persons. (19) It is true that the divine world is not made up of vague and anonymous forces; it is composed of well-defined figures, each with its own name and status, its own attributes, and

its own characteristic experiences. But that is not to say that this world is composed of separate individuals, autonomous focuses of existence and action, ontological units - persons, in our sense of the word. A divine power does not really have any 'existence on its own'. It exists only by virtue of the network of relations that makes it a part of the divine system as a whole. And, within this network, it does not necessarily appear as a single entity, but can equally well be plural, either an indefinite plurality or a fixed number of figures. Now, for us, a *single* person cannot be several: one term excludes the other. But for the religious consciousness of the Greeks there is no radical incompatibility between them. (20) It has often been noted that, when describing a divine power, Greek writers go from the singular to the plural and vice versa without difficulty, even in the context of a single phrase. (21) Similarly, the Greeks can either imagine Charis as a single deity or the Charites in the plural, either as an indivisible group without distinction made among the plurality of powers within it, or as a set of three deities, each of which is individualized to some degree and bears its own name. Even in the cases of the most individualized figures, such as Zeus or Hera, they are not so unified that one cannot speak of a double or triple Zeus or Hera. (22) On occasion, depending on the demands of the situation, the same divine power may be imagined as a unity, in the singular, or as a multiplicity, in the plural. Similarly, even the collection of different supernatural powers that, together, make up the entire society of the gods, can be considered in the singular form, ὁ θεός, *the* divine power, *the* god, although this does not mean that there is any suggestion of monotheism here. Furthermore, religion knew, not the one unique figure of Zeus which mythology has made familiar to us, but rather a whole series of Zeuses, each individualized by its particular cult title. These differed widely in their religious significance yet each certainly was, in some way, Zeus. (23) The reason for this paradox is, precisely, that a god expresses the different aspects and modes of action of a power, rather than of any personal form of existence. From the point of view of a power, the opposition between the particular and the universal, or the concrete and the abstract, is irrelevant. (24) Aphrodite is *a* beauty, a particular goddess, but at the same time she is 'beauty' - what we would call the essence of beauty - that is to say, the power that is present in all beautiful things, and through which they are made beautiful. E. Rohde has already pointed out that the Greeks conceived not the divine person but rather the

divine essence as a unity, and L. Schmidt has, with reason, written:

> For anybody born a Greek and thinking like a Greek, the idea of a clear antithesis between unity and plurality is put aside where the supernatural beings are concerned. He has no difficulty in conceiving unity of action divorced from any unity of person. (25)

We should not be misled by the anthropomorphism of the Greek god any more than by his apparent individuality, for the anthropomorphism, too, is strictly limited. (26) A divine power always represents a complex of cosmic, social, and human features that are not clearly distinguished. For the Greeks, Zeus is related to, first, various forms of sovereignty or power over others; second, to certain human attitudes and forms of behaviour such as the respect shown to suppliants and strangers, contracts, oaths, and marriage; third, to the sky, light, lightning, rain, mountain tops, and certain trees. These phenomena, which seem so diverse to us, are related to one another in the system of Greek religious thought, in that each, in its own way, is an expression of a different aspect of the same power. The depiction of the god in a fully human form does not affect this fundamental fact and it is an element of religious symbolism which must be accurately interpreted in its precise context. The idol is not a portrait of the god: the gods have no bodies. Their essence is to be invisible, always beyond the forms in which they manifest themselves or in which they are made present in temples. The relation between the deity and its cult symbol - whether this be anthropomorphic, zoomorphic, or nonfigurative - has nothing to do with the relation between a man's body and his ego. Originally, in Greece, the great anthropomorphic cult statue was of the *couros* or *coré* type: it did not represent one particular subject, a divine or human individual, but an impersonal type, the young man or the young girl. It depicted and represented the form of the human body in general. The reason for this is that, seen in this way, the body does not appear as linked to an ego, as the incarnation of one person. Rather, it is charged with religious significance, and expresses certain powers: beauty, charm (*charis*), brilliance, youth, health, strength, life, movement, and so forth, which are really properties of the deity, and which the human body, more than any other, reflects when, in the flower of youth, it is as if lit up by a divine light. Thus the problems raised by the anthropomorphic representation of the gods in Greece remain, essentially, outside the sphere of personal identity.

There were, apart from the gods, other supernatural

powers the Greeks worshipped. In the first place there were the dead. To what extent did the cult of the dead concern the personal identities of those who had died? Was its function to ensure the permanence of each human individual, as a unique being, beyond death? Not at all. (27) Its purpose was quite different, namely, to maintain the continuity of the family group and the city. In the beyond the dead become faceless, losing their distinctive features; each one is lost in an undifferentiated mass which reflects, not what each one was in his lifetime, but a general mode of being both opposed to and linked with life, the reservoir of power from which life is drawn and to which it returns in its cyclical movement. To the slight extent to which the cult of the dead depends upon a belief in immortality, this is an impersonal immortality. In Hesiod the epithet that describes the status of the dead in Hades is νώνυμνοι: nameless. (28)

Finally there are the heroes. In the classical period these form a fairly well-defined religious category which is opposed both to the dead and to the gods. In contrast to the dead, the hero keeps his own name and his individual appearance in the beyond; his individuality stands out from the anonymous mass of the deceased. (29) And, in contrast to the gods, he was seen by the Greeks as a man who had been alive, and who, when consecrated at his death, was promoted to a quasi-divine status. The hero is a 'special' individual; he is exceptional and more than human, but he must nevertheless embrace the human condition. He is familiar with human vicissitudes, human trials and limitations, and he must confront suffering and death. What distinguishes him, even in the midst of his human destiny, is the actions he dares to undertake and that he successfully performs: his exploits. The heroic exploit epitomizes all the virtues and dangers involved in human action. In a way, it represents action in an exemplary form. Thus we have (i) actions that create, innovate, initiate (as when the hero civilizes, invents, or founds cities or noble lineages); (ii) actions which, in critical conditions and at the crucial moment, ensure victory in the fight or restore the order that is threatened (as when the hero fights against a monster); and (iii) actions which, by overcoming the normal limitations and ignoring all the normal prohibitions, transcend the human condition, and, like a river returning to its source, join the divine power once more (as, in the cases of the sacrilegious hero, of the descent to the underworld or of victory over death).

It would appear that the Greeks used stories about the heroes to express problems connected with human action and

its place in the order of the world. Indeed, when tragedy was introduced in Greece, it used, during the short period when it flourished, legends about the heroes to present certain aspects of man in action, at the cross-roads of decision, at grips with the consequences of his actions. Tragedy, however, even when it used stories from the heroic tradition, differed from the cults and the myths of the heroes. It transformed these stories for its own purposes, for at this stage in their history the Greeks posed questions about man himself, about his place with regard to fate, about his responsibility for actions whose beginning and whose end are beyond him, about the ambiguous values of the things among which he must choose, and about the need, nevertheless, to take decisions.

But outside the sphere of tragedy, on the more specifically religious level that is the object of the present study, the heroic stories appear in a very different light. In the cults of the heroes, their individuality becomes blurred or disappears. Some heroes are totally anonymous, and are referred to, as in the case of the hero of Marathon, by the name of the place where they are buried and which they are believed to protect. (30) There are others, and they are many, whose individual personality is unknown in the cult which sees them only in terms of the narrowly specialized function over which they preside. (31) Paradoxically, H. Usener finds among the heroes more examples than anywhere else to illustrate his theories about functional gods. (32) We have the doctor hero, the doorkeeper, the cook, the flycatcher, the turnkey, the heroes of the meal, of the bean, of saffron, and heroes to mix wine with water, to mill the grain, to guard the frontiers, to protect the roofs, to scare the horses, and so on....

As for the legends about the heroes, it is true that they make the heroes stand out as individual figures in that they are the protagonists of tales with a more or less consecutive story, but the exploits recorded are valid in themselves and on their own account, so to speak, quite apart from the hero performing them. The myths are never told from the point of view of the protagonist in such a way as to indicate the problems which are presented from the agent's point of view: the hero does not plan, make preparations, or look ahead; he does not have to organize the temporal sequence of his actions. When his exploits follow one after the other it cannot even be claimed that they are in a linked sequence or set in any definite order. Each trial is complete in itself; there are no links between it and those that precede it which it may repeat but to which it makes no new contribution, nor

is there any link between it and those that follow it for which it is neither a preparation nor a necessary precondition. (33) How could the hero be responsible for a success that he never has to win or deserve? The heroic exploit is characterized by its gratuitous nature. (34) The source and origin of the action and the reason for its success are not to be found within the hero but outside him. He does not perform the impossible because he is a hero; rather, he is a hero because he has performed the impossible. The exploit is not the outcome of his personal excellence, but the sign of some divine grace, the manifestation of supernatural assistance. The heroic legends do not present man as a responsible agent, in control of his actions and of his personal destiny. They describe certain types of exploits, model trials in which ancient initiation ceremonies are echoed, and which use the medium of exemplary human deeds to illustrate the conditions necessary to acquire exceptional religious qualifications and social privileges. The theme that the myths of the heroes convey is that of the possibility - given certain circumstances - of establishing a bridge between the world of men and that of the gods and of revealing the presence of the divine in the hero, through some trial. The known cases of men being made heroes from the historical period are most significant in this respect. We always find a man visited by a power, transfigured, thanks to some religious quality and exhibiting this *numen* either in his attributes, usually physical ones, or in the particular circumstances of his life or of his death. A man would be made a hero for his extraordinary beauty, his gigantic stature, his superhuman strength, even for the magnitude of the crimes he is thought to have committed, for his mysterious disappearance leaving no trace behind him, or for the mischief attributed to his ghost after his death. None of this has anything even remotely to do with personal identity.

Must we, then, at the end of this study, conclude purely and simply that the notion of personal identity was completely lacking? To do so would be to ignore a whole aspect of Greek religion, which, despite the fact that it was in certain respects atypical, nevertheless played a decisive role at the very origins of personal identity, and of its history in the development of western man. On the periphery of official religion, in the circles of the sects, there developed between the sixth and fifth centuries a new concept of soul which was to come into its own in philosophical thought and which - to borrow one of Louis Gernet's expressions - held out hitherto 'unthought of possibilities for the ascent of man'. (35) The soul

in man is seen as an element that is foreign to earthly life, a being from elsewhere, an exile related to the divine. Before there could be any realization of a truly internal dimension to human experience it was necessary to discover a mysterious and supernatural power within man, the soul or daemon. The magi, those extraordinary figures whose role at the origins of philosophical thought has often been stressed, claimed to hold some power of mastery and control over the daemonic soul. By means of their ascetic practices and exercises in mental concentration, possibly connected with physical techniques - in particular the suspension of breathing - they claimed to concentrate and unite psychic powers normally dispersed throughout the individual, and, at will, to separate from the body the soul that they had thus isolated and concentrated. They restored it for an instant to its original home where it recovered its divine nature before being made to redescend and be chained once more to the body. (36) Now the *psuché* is no longer, as in Homer, that insubstantial wisp of smoke, a ghost without body or strength which leaves man as he breathes his last. It is a power that exists at the very heart of the living man, that is controlled by him and that it is his duty to develop, purify, and liberate. Once the *psuché* has become the daemonic being in man with which he seeks to identify, it acquires the consistency of a real object, a real being that can exist on its own, a 'double'. But at the same time it is part of the man himself and represents a new dimension to him that he must master and understand ever more deeply by submitting himself to a demanding spiritual discipline. The *psuché* was both an objective reality and a subjective inner experience and it provided the first framework within which the subjective world could be considered objectively and allowed to develop; it was a starting point for the progressive construction of the category of the ego. (37)

The fact that the category of personal identity had this religious origin in Greek civilization had two consequences. In the first place, the soul acquired its objectivity and true form of existence by being set in opposition to the body or even excluded from it. The discovery of an inner life went with a belief in the dualism of body and soul. The soul is defined as being the opposite of the body. It is fettered to it, as in a prison, buried within it, as in a tomb. Thus, at first, the body was excluded from the person and had nothing to do with a man's individuality. (38)

Second, since the soul is divine it cannot express what characterizes human beings. Its destiny is to go beyond,

to surpass, the individual. It is significant, in this connection, that it should belong to the category of the 'daemonic', that is to say, paradoxically enough, to the least individualized, the least 'personal' element of the divine. For example, Aristotle was to say that nature, φύσις, is not divine but daemonic. (39) Thus, for the ancient Greeks, the essential nature of the inner man is related to that mysterious power of life which animates nature as a whole and sets it in motion. It is clear that, at this stage in its development, personal identity was not concerned with the single individual, with his irreplaceable and unique qualities, nor with man as distinguished from the rest of nature in his specifically human aspects. On the contrary, it tended to express what individuals had in common with the whole and what fused them with it. Even in the current of thought most opposed to the religion of the city and its spirit, we find a similar marked attempt to fit the human individual into an order which is greater than he is. Even when a man does not directly participate in the social order conceived as something sacred, even when he eludes it, this is not to assert his own value as an individual, but to re-enter an ordered whole by another route by identifying himself to the fullest extent possible with the divine.

NOTES

1 Lecture given at the conference on 'Problèmes de la personne' organized by the Centre for Research in Comparative Psychology, Royaumont, 29 September-3 October 1960.

2 At least it is so in one of its fundamental aspects, maenadism, to which we are referring here; cf. H. Jeanmaire, 'Dionysos. Histoire du culte de Bacchus' (Paris, 1951), 158 ff.; L. Gernet, Dionysos et la religion dionysiaque. Éléments hérités et traits originaux, 'Revue des études grecques' (1953), 377-95, especially 383: 'Le ménadisme est chose féminine.'

3 Cf. L. Gernet and A. Boulanger, 'Le Génie grec dans la religion' (Paris, 1932), 124.

4 Ibid., 123. On the *orgeones*, cf. W.S. Ferguson, The Attic Orgeones, 'The Harvard Theological Review', 37 (1944), 61-140.

5 Gernet and Boulanger, 'Le Génie grec', 125. For an analysis of the Greek vocabulary used to express the sacred, and in particular the meanings of *hieros*, cf. Jean Rudhardt, 'Notions fondamentales de la pensée

religieuse et actes constitutifs du culte dans la Grèce classique' (Geneva, 1958); on the meaning of *hosios* (as opposed to *hieros*), where *hosios* has the sense of : liberated from the sacred, deconsecrated and consequently free, permitted, profane, cf. H. Jeanmaire, Le substantif Hosia dans le vocabulaire religieux et sa signification comme terme technique, 'Revue des études grecques' (1954), 66-84. On the use of the same term applied to the Bacchae who minister to Dionysus, and its use in the circles of the sects with the meaning not of deconsecrated and licit, but of consecrated, sanctified, cf. Jane Harrison, 'Prolegomena to the Study of Greek Religion' (Cambridge, 1903), 4th edn, New York, 1957, 503 ff. Being freed with regard to the *hieros* can, in a sense, take place downwards towards what is profane, or upwards in the direction of an identification with the divine.

6 Cf. E.R. Dodds, 'The Greeks and the Irrational' (2nd edn, Berkeley and Los Angeles, 1963), 135 ff.

7 Cf. L. Gernet, Dionysos et la religion dionysiac, 'Revue des études grecques' (1953), 393.

8 Plutarch, ap. Stobaeus 'Florilegium' 4. 107.

9 Cf. L. Gernet, L'anthropologie dans la religion grecque, 'Anthropologie religieuse', supplement to 'Numen' (1955), 2: 52: 'It is striking that not even the Dionysiac religion as such or the mysteries of Eleusis were concerned with (the soul).' And 'Le Génie grec', 287: 'The thought of the Mystery religions remains so undeveloped that the Homeric representation of the fate of the souls (which has survived down to modern times) predominates: it perpetuates "impersonal" concepts of the most primitive type.'

10 Reference should be made to the analysis by A. Festugière, 'Personal Religion among the Greeks', Sather Classical Lectures (Berkeley and Los Angeles, 1954); also cf. André Bonnard, 'La Tragédie et l'homme' (Neuchâtel, 1951), 153-87.

11 Euripides 'Hippolytus' line 84.

12 Ibid. l. 953-4.

13 For Hippolytus's self-confidence, and the trenchant declaration of his own superiority or even perfection, cf. ibid. l. 654 ff., 995, 1007, 1365 ... Αἰδώς, the virtue which is associated especially with youth, and which Hippolytus embodies, is, through excess, transformed in his case into its opposite, arrogance: τὸ σεμνόν; cf. lines 93 and 1064.

14 Cf. ibid., right at the beginning of the tragedy, lines 19-21, pronounced by Aphrodite, and at the

climax of the drama when Phaedra takes the decision to kill herself and bring ruin upon Hippolytus, lines 730-1.

15 Ibid. l. 1396.

16 Ibid. line 1437 ff.

17 One aspect of Greek tragedy is this solitude in which man finds himself when faced with death, and, more generally, when confronted with anything that marks human existence with the seal of deprivation and non-being. Amid his failures and trials or on the threshold of death, man feels himself observed by a deity that is defined by its perfect fullness of being and that cannot be related to or participate in the world of 'passion'. Thus any human destiny may at the same time be seen from two opposite points of view: from man's, as a drama, and, from that of the gods, as a distant and futile spectacle.

18 Suffice it to refer here to the work of B. Snell, 'Die Entdeckung des Geistes' (2nd edn, Hamburg, 1955); of R.B. Onians, 'The Origins of European Thought about the Body, the Mind, the Soul, the World, Time and Fate' (2nd edn, Cambridge, 1951); of H. Fränkel, 'Dichtung und Philosophie des frühens Griechentums' (2nd edn, Munich, 1955); and of C. Ramnoux, 'Vocabulaire et structures de pensée archaïque chez Héraclite' (Paris, 1959). We should also mention the stimulating study by Louis Graz, L'Iliade et la personne, 'Esprit' (September 1960), 1390-1403.

19 To take but one example: the problems of the god as a responsible agent and of his internal liberty are never considered. The actions of a deity know no limits other than those that are imposed upon it from outside, by other powers whose spheres of influence and whose privileges must be respected. A god's liberty is measured in terms of the extent of his power, of his 'dominion' over others. Walter F. Otto rightly comments that there is no feature in the Greek gods that calls attention to a 'self' or that refers to an 'ego' with its own will, feelings, and individual destiny: 'Die Götter Griechenlands' (Bonn, 1929), translated into English under the title of 'The Homeric Gods' (London, 1954), 236.

20 'It is a fact, and one of the greatest significance, that Greek thought never distinguished between *theos* and *theoi*, between god and gods,' A.J. Festugière, Remarques sur les dieux grecs, 'La Vie intellectuelle' (1932), 385.

21 Cf. Gilbert François, 'Le Polythéisme et l'emploi au singulier des mots ΘΕΟΣ, ΔΑΙΜΩΝ dans la littérature grecque d'Homère à Platon' (Paris, 1957).

22 The concept of a divine power that is both one and threefold presents no difficulty or problems for the Greeks. One has only to reflect on the bitterness of the arguments about the trinity, in Christianity, to appreciate how much the way of thinking about the divine has changed.

23 Our best illustration is possibly that provided by Xenophon in the 'Anabasis'. Throughout this campaign Xenophon places himself under the special protection of Zeus the king, as the oracle of Delphi had ordered him (3. 1. 6-12; 6. 1. 22). This deity manifests his particular favours to him through dreams; on several occasions Xenophon offers sacrifices to him, as, on other occasions, he also does to Zeus the saviour. But being in the good graces of Zeus the king and Zeus the saviour does not prevent Xenophon from being, personally, on bad terms with Zeus-Meilichius, and from finding himself entirely impoverished for this reason. Being far away from home, Xenophon forgot to make sacrifices to Zeus-Meilichius, as he did when at home, on the day of the *Diasia*. Zeus the king is concerned with the problems of authority and command, Zeus the saviour presides over the hazards of war, but Xenophon's personal fortune and the state of his finances depend upon Zeus-Meilichius (7. 8, 1-7). Another significant fact is that among the epithets addressed to him in the course of his cult a god may number the proper name of another so-called 'personal' deity. There are, for example, instances of a Zeus-Hades and a Hera-Aphrodite.

24 Cf. the remarks of P. Chantraine on the absence of this opposition on the linguistic level, in his article entitled Reflexions sur les noms des dieux helléniques, 'Antiquité classique' (1953), 65-78.

25 E. Rohde, Die Religion der Griechen in his 'Kleine Schriften' (Tübingen-Leipzig, 1901), 2: 320; L. Schmidt, 'Die Ethik der alten Griechen' (Berlin, 1882), 1: 52; quoted by Gilbert François, 'Le Polythéisme', 11 and 14.

26 Cf. Rudhardt, 'Notions', 80 ff.

27 Cf. Gernet and Boulanger, 'Le Génie grec', 287: 'When Socrates remarks in the "Republic" that the individual possesses his own immortal soul this is greeted by an educated Athenian as a strange novelty.' Cf. also J. Rudhardt, 'Notions', 113 and 125.

28 Hesiod 'Works and Days' 154.

29 This opposition is very clear in Hesiod's 'Myth of the Races' where the anonymous dead and the glorious heroes form a contrasting pair. The former disappear

into the world of night, silence, and oblivion. The latter belong to the world of light, and their glory, celebrated by the voice of the poets, lives forever in men's memories.

30 Gernet and Boulanger, 'Le Génie grec', 255.

31 Cf. P. Foucart, 'Le Culte des héros chez les grecs' (Paris, 1918), 22 ff.; Marie Delcourt, 'Légendes et cultes de héros en Grece' (Paris, 1942), 62 ff.

32 H. Usener, 'Götternamen, Versuch einer Lehre von der religiösen Begriffsbildung' (Bonn, 1896). On the Greek heroes as 'Sondergötter', cf. 247-73.

33 The series of the 'labours' of Heracles illustrates this. The myth of Perseus appears to present an example where the actions are already organized in a more complex and systematic way. In order to be successful, Perseus has first to persuade the Graiae to reveal to him the secret of the abode of the nymphs, obtain the magic instruments of victory from the nymphs, slay Medusa with the help of Athena, and finally escape from the pursuit of the two surviving Gorgons. However, each phase is really a repetition of one single mythical theme, expressing the same initiatory trial: to see without being seen, to make oneself invisible to a vigilant enemy. Perseus must kill Medusa, the eye of death, seeing her but not exchanging glances with her. He must escape from the Gorgons by means of the magic instruments of invisibility and take the Graiae by surprise by stealing their only eye at the precise moment when, being passed from hand to hand as in a game of 'pass the parcel', the eye is not actually in the possession of any one of them.

34 Gernet, L'anthropologie, 53.

35 Ibid., 58.

36 On these exercises in mental concentration of the same type as yoga, and their relationship with memory exercise in the philosophical sects and Pythagorean brotherhoods, cf. ibid., 96 and 114: M. Detienne, 'La Notion de Daimôn dans le Pythagorisme ancien' (Paris, 1963), 69-85.

37 This conquest of the subject by himself, and the progressive elaboration of the world of inner experience in contrast to the world outside, were achieved in different ways, with lyrical poetry, moral thought, tragedy, medicine, and philosophy all playing their part. On the meaning of *psuché* and other psychological terms and their semantic development in the various sectors of Greek thought, cf. the excellent study by T.B.L. Webster, Some psychological terms in Greek tragedy, 'Journal of Hellenic Studies' (1957), 149-54.

38 For this reason it was later to prove necessary to recover the body and integrate it with the ego so as to establish the person both in its concrete uniqueness and as an expression of the total man.

39 Aristotle 'On the Divination of Dreams' 463B 12-15.

Part Seven

From Myth to Reason

15 The Formation of Positivist Thought in Archaic Greece

Rational thought has, as it were, its personal credentials in order: its date and place of birth are known. It was in the sixth century BC, in the Greek cities of Asia Minor, that a new positivist type of thought about nature emerged. J. Burnet was voicing current opinion on this subject when he remarked, 'The early Ionian teachers opened the road which science has simply had to follow along ever since.' (2) In this view the birth of philosophy, in Greece, was seen as the beginning of scientific thought - or one might even say, 'thought' itself. In the Milesian school *logos* was for the first time freed from myth, just as scales fall from the eyes of a blind man; it was not so much a change in intellectual attitude, a mental mutation, as a single decisive and definitive revelation: the discovery of the mind. (3) It would accordingly be futile to seek the origins of rational thought in the past: true thought could have no origin outside itself. It lies outside history and history can therefore only account for the successive obstacles, mistakes, and illusions encountered in the development of the mind. This is the meaning of the Greek 'miracle': we can recognize that a nontemporal reason was embodied in time, in the thought of the Ionian philosophers. The arrival of the *logos* is thus held to have introduced a radical discontinuity into history. Philosophy is seen as a traveller without luggage, entering the world without a past, without antecedents, without affiliations; it was an absolute beginning.

Seen from this point of view, the Greeks are inevitably raised above all other peoples and seen as predestined, for in them the *logos* was made flesh. Burnet argued that if the Greeks invented philosophy it was because of their exceptional intellectual qualities, their observational ability, combined with their powers of reasoning. (4)

And through, and beyond, Greek philosophy this quasi-providential superiority is transmitted to the whole of western thought, the offspring of Hellenism.

I

In the course of the last fifty years, however, the West's confidence in its monopoly over reason has been undermined. The crisis in contemporary physics and science has shaken the foundations - hitherto believed to be permanent - of classical logic. Contact with great civilizations with spiritual traditions different from our own, such as China and India, has shattered the framework of traditional humanism. Today, the West can no longer assume its thought to be the only thought, nor hail the dawn of Greek philosophy as that of the mind itself. At a time when rational thought is anxious about its future and is questioning its basic principles, it turns back to examine its origins. It poses questions about its own past in order to place and understand itself historically.

Two dates stand out as landmarks in this inquiry. In 1912 F.M. Cornford published 'From Religion to Philosophy', in which he tried, for the first time, to define the link that ties religious thought to the beginnings of rational knowledge. He did not return to the problem until much later, towards the end of his life. Thus it was in 1952 - nine years after his death - that there appeared, under the title of 'Principium Sapientiae: The Origins of Greek Philosophical Thought', his studies establishing the mythical and ritual origins of the first Greek philosophy.

In opposition to Burnet, Cornford shows that Ionian 'physics' has nothing in common with what we today call science. It knew nothing at all of experimentation; nor was it the product of the direct observation of nature. It transposed and made secular the system of religious representation and developed a more abstract mode of thought. The cosmological myths are taken up and contained in the cosmologies of the philosophers. They provide an answer to the same type of question: how did an ordered world come to emerge from chaos? And they work with analogous concepts: behind the 'elements' of the Ionians can be discerned the ancient deities of mythology. In becoming 'nature' the elements shed their aspect of individualized gods; but they remained active powers, animated and imperishable, and still felt to be divine. Homer's world was organized according to a distribution of spheres of influence and of honours among the gods: for Zeus the 'ethereal' sky (αἰθήρ, fire); for Hades the

'misty' shadow (αηρ, air), for Poseidon the sea, while the three in common share Γαια, the earth, on which men live and die. (5) The cosmos of the Ionians is organized by dividing up the various world areas and sharing out the seasons between opposed powers which counterbalance each other.

This is no vague analogy. Thus Cornford shows that the philosophy of Anaximander and the 'Theogony' of an inspired poet such as Hesiod have a structure that corresponds even in details. (6) Furthermore the process of conceptual development that culminates in the naturalistic system of Anaximander was already beginning in Hesiod's religious hymn of praise to Zeus. The same mythical theme of the setting in order of the world is in fact expressed in two different ways, reflecting two different levels of abstraction.

In the first version the myth recounts the adventures of divine figures. (7) Zeus fights for sovereignty against Typhon, the dragon with a thousand voices, the power of confusion and disorder. Zeus kills the monster whose corpse gives birth to the winds that blow in the space separating sky from earth. Zeus is then pressed by the gods to assume the power and throne of the immortals, and he apportions the 'honours' among them. In this form, the myth remains very close to the ritual drama that it illustrates, the model for which is to be found in the royal festival of the creation of the new year, in the month of Nisan, at Babylon. (8) At the end of a temporal cycle - a great year - the king must reaffirm his sovereign power which is called into question by the revolution of time by which the world returns to its point of departure. (9) The royal trial and victory, which are ritually mimed in a struggle against a dragon, stand for the recreation of the cosmic, seasonal, and social order.

The king is at the centre of the world, just as he is at the centre of his people. Each year he repeats the exploit accomplished by Marduk, that is celebrated in a hymn, the 'Enuma Elis', sung on the fourth day of the festival: it is the victory of the god over Tiamat, the female monster that embodies the powers of disorder, the return to the inchoate, in short, chaos. Marduk is proclaimed king of the gods, slays Tiamat, with the help of the winds which lodge themselves inside the monster. Once the beast is dead, Marduk splits it open like an oyster, and throws one half up into the air, fixing it there to form the sky. He then regulates the place and movement of the stars, fixes the year and the months, creates the human race, and apportions privileges and destinies. The thought expressed through the Babylonian

rite and myth does not yet clearly distinguish between man, the world, and the gods. Divine power is concentrated in the person of the king. The setting in order of the world and the organization of the seasonal cycle appear to be an integral part of royal activity. They are aspects of the function of kingship. Nature and society are fused.

In contrast, in another passage from Hesiod's poem, (10) the account of the creation of order is presented totally devoid of mythical imagery, and the names of the protagonists are sufficiently transparent to reveal the 'natural' character of the process that culminates in the organization of the cosmos. In the beginning was chaos, the dark abyss, the ariel void in which nothing is distinguished. Chaos must open up like a huge mouth (Χάος is linked etymologically with Χάσμα: the yawning gap, Χαίνω, Χάσκω, Χασμῶμαι, to open, to gape, to yawn) so that light (αἰθήρ) and day, following upon night, can penetrate within it, illuminating the space between Γαῖα (earth) and Οὐρανός (the sky) which are henceforth set apart from each other. The emergence of the world proceeds with the appearance of Πόντος (the sea) which comes forth, in its turn, from Γαῖα. Hesiod stresses that all these successive births come about without Ἔρως (love), (11) that is, not through union, but through separation. Ἔρως is the principle that brings opposites together - the male and the female for instance - and binds them to one another. But before Ἔρως comes into operation, genesis comes about through separating out elements that were previously united and fused (Γαῖα gives birth to Οὐρανός and Πόντος).

In this second version of the myth one can recognize the structure of thought that serves as a model for all Ionian physics. Cornford analyses it, schematically, as follows. First, there is a state where nothing is distinct and nothing appears. Second, from this primeval unity there emerge, through a process of separation, pairs of opposites - hot and cold, dry and wet - that are to differentiate four provinces in space, namely, the sky of fire, the cold air, the dry earth, and the wet sea. Third, the opposites unite and interact, each one in turn dominating the others, following a cycle that is renewed indefinitely, through meteorological phenomena, the sequence of the seasons, the birth and death of all that lives, that is, plants, animals, and men. (12)

The fundamental concepts upon which this construction of Ionian philosophy is based are (i) the separation out from a primeval unity; (ii) the constant struggle and uniting of opposites; (iii) an eternal cycle of change; and all three reveal how their cosmology was rooted in

mythical thought. (13) The philosophers did not have to invent a system to explain the world: they found one ready-made. Cornford's work marks a turning point in the method of approaching the problem of the origins of philosophy and rational thought. Because he was obliged to counter the theory of the Greek miracle which presented Ionian physics as a sudden and uncaused revelation of reason, Cornford was essentially concerned to re-establish the thread of historical continuity between philosophy and the religious thought that had preceded it. This led him to look for aspects that persisted in both and to insist on what could be recognized as being in common between them. One even sometimes has the impression, in his work, that the philosophers were content to repeat in a different language what had already been expressed in myth. Now that, thanks to Cornford, the connection between them is recognized, the problem necessarily assumes a new form. What has to be done now is not simply to recognize the ancient elements that survive in philosophy, but to distinguish those that are truly new, in other words, what it is that makes philosophy cease to be myth and become philosophy. We must define the transformation of thought that we find in the earliest Greek philosophy and describe its nature, its scope, its limitations, and its historical conditions.

Cornford was not unaware of this aspect of the question. It is reasonable to believe that he would have developed his ideas on it more fully had he been able to complete his last work. He expressed the view that in philosophy myth is rationalized. (14) But what does this mean? It means, in the first place, that it took the form of an explicitly formulated problem. Myths were accounts, not solutions to problems. They told of the sequence of actions by which the king or the god imposed order, as these actions were mimed out in ritual. The problem was resolved without ever having been posed. However, in Greece, where the new political forms had triumphed with the development of the city, only a few traces of the ancient royal rituals remained, and even their meaning had been forgotten. (15) The memory of the king who was creator of order and maker of time had disappeared. (16) The connection between the mythical exploit of the sovereign that is symbolized by his victory over the dragon, and the organization of the cosmic phenomena is no longer apparent. When the natural order and atmospheric phenomena (rains, winds, storms, and thunderbolts) become independent from the functions of the king, they cease to be intelligible in the language of myth in which they had been described hitherto. They are now

seen as 'questions' which are the subject of open discussion. It is these questions (the genesis of the cosmic order and the explanation for *meteora*) that, in their new form, as problems, constitute the subject matter for the earliest philosophical thought. Thus the philosopher takes over from the old king-magician, the master of time: he constructs a theory to explain the very same phenomena that in times gone by the king had brought about. (17)

As early as Hesiod the royal function and the cosmic order are dissociated. Zeus's fight against Typhon for the title of king of the gods has lost its cosmogonic meaning. It needed all of Cornford's learning to discern that the winds which are born from Typhon's body are the same winds which are engulfed inside Tiamat, and thus separate the heavens from the earth. Conversely, the account of the genesis of the world describes a natural process which has no connection with ritual. Nevertheless, despite its attempts at conceptual clarification, Hesiod's thought remains mythical. True, Οὐρανός, Γαῖα, and Πόντος are physical realities, in their concrete aspects of sky, earth, and sea; but at the same time they are also divine powers whose actions are analogous to those of men. Mythical logic rests on this ambiguity. Myth operates on two levels at once: thus the same phenomenon - for example, the separation of earth from water - is understood simultaneously, both as a natural fact in the visible world and a divine birth at the beginning of time. In contrast, for the Milesians - as Cornford, following W. Jaeger, (18) remarks - Ὠκεανός and Γαῖα have shed all their anthropomorphic features and have become purely and simply water and earth. Expressed in this form, this seems somewhat bald. The Milesian elements may not be mythical figures such as Γαῖα, but nor are they concrete realities such as earth. They are eternally active powers, both divine and natural at the same time. What is new, conceptually, is that these powers are strictly defined and conceived in abstract terms: they are limited to producing a definite physical effect, and this effect is a general abstract quality. In place of earth and fire, or under those headings, the Milesians postulate the qualities dry and hot, turning these into nouns by the new use of the article 'the' - 'the hot' - and thereby treating them as substances. (19) The hot is a reality which is wholly defined by the action of heating, and which no longer needs a mythical personification such as Hephaestus to convey its aspect as a 'power'. The forces that produced and that animate the cosmos thus operate on the same level and in the same manner as those that we see at work each day, when the rain moistens the

earth or when a fire dries a wet garment. The original, the primeval, are stripped of their mystery and acquire the reassuring banality of everyday matters. The world of the Ionians, this world 'full of gods', is at the same time fully natural.

In this respect the revolution is so far-reaching, and it carries thought so far afield that in its subsequent developments philosophy seems to have to some extent put this process into reverse. With the physicists there was a complete break with the past; the whole of reality, including both men and gods, was interpreted positivistically. There was nothing real that was not natural. (20) And, removed from its mythical background, nature itself became a problem, a subject for rational discussion. Nature, *phusis*, is the power of life and movement. So long as there was no distinction drawn between the two meanings of φύειν: 'to produce' and 'to give birth to', they remained fused, as did the two meanings of γένεσις: origin and birth and the explanation of becoming rested on the mythical image of sexual union. (21) Understanding meant finding the father and mother, tracing the genealogical tree. But for the Ionians the natural elements, now conceived as abstractions, can no longer be united by marriage in the same way as men. Thus cosmology involves a change not only in language but in the content of ideas. Instead of telling of successive births, it describes first principles, the constituents of being. It changes from a historical account into a system which reveals the deep structure of reality. The problem of γένεσις, of becoming, is transformed into an inquiry seeking what lies beyond the changeable, that which is stable, permanent, and identical. At the same time, the concept of *phusis* is subjected to a critical appraisal that progressively strips it of all that it still owed to myth. In order to account for the changes in the cosmos, men increasingly appealed to the models provided by ingenious technical constructions instead of referring to animal life or the growth of plants. It is in a quite different way that man understands what he has himself constructed, and he understands it better. The movements of a machine are explained by the permanent structure of matter, not by changes that are produced by vital forces. (22) The old mythical concept of a 'struggle' between qualitatively opposed powers, bringing about the genesis of things, gives way, in Anaximenes, to a mechanical sorting of the elements which one differentiated only in quantitative terms. The sphere of *phusis* becomes more precise and limited. Once it is conceived as a mechanism, the world gradually loses the divine element that accord-

ing to the first 'physicists' gave it life. Simultaneously the problem of the origin of movement arises; the divine becomes concentrated outside nature, in opposition to nature, moving and controlling it from outside, as does the νοῦς of Anaxagoras. (23)

At this point, Ionian physics rejoined a different current of thought, one that was, in many respects, opposed to it. (24) One might almost say that it shores it up since these two emerging forms of philosophy seem, for all their contrasts, to be complementary to one another. Over in Italy, in Magna Graecia, philosophers emphasized not the unity of *phusis* but rather the duality of man apprehended in an experience which was as much religious as philosophical. They claimed that there is a human soul which is different from the body, opposed to the body, and which is the guiding force as the divine is for nature. The soul possesses a dimension that is not spatial, and a form of action and movement - namely, thought - which does not involve the movement of anything material. (25) Being related to the divine, the soul can, in certain conditions, apprehend it, be rejoined with it, united with it, and win an existence that is liberated from time and change.

Behind nature there is an invisible background, a reality that is truer, secret, and hidden which the soul of the philosopher grasps by revelation, and which is the opposite of *phusis*. Thus, with the very first step it takes, rational thought seems to return to myth. (26) But it only seems to do so. In adapting to its own purposes a structure of mythical thought, it in fact leaves its point of departure behind. The dual views of *phusis*, and the resulting distinctions made between several levels of reality, emphasize and clarify the separation between nature, gods, and men, which is the prior condition for rational thought. In myth, the diversity of levels of thought concealed an ambiguity which allowed these spheres to be confused. Philosophy distinguishes these spheres to prevent them from being confused. As each of the concepts of the human, the natural, and the divine become more clearly separated in philosophy, this contributes to their mutual clarification and elaboration.

Nevertheless what reduced nature to the level of a mere appearance in the eyes of some philosophers was that natural becoming (*phusis*) was no more intelligible than the genesis of myth. The authentic being beyond nature that philosophy strives to reach and reveal has nothing to do with the supernatural of myth: it belongs to a quite different category; (27) it is a pure abstraction, that which always remains identical, the very principle of

rational thought, objectivity in the form of the *logos*. Among the Ionians, the new demand for positivism was from the start aimed at the absolute in the concept of *phusis*; in Parmenides the new insistence on intelligibility is aimed at the absolute in the concept of being, ever unchanging and identical. Rational thought is torn between these two contradictory demands, both of which represent a decisive break with myth. Thus, in one theory after another it embarks upon a dialectic whose development gives rise to the history of Greek philosophy.

The birth of philosophy thus seems connected with two major transformations of thought. The first is the emergence of positivist thought that excludes all forms of the supernatural and rejects the implicit assimilation, in myth, of physical phenomena with divine agents; the second is the development of abstract thought that strips reality of the power of change that myth ascribed to it, and rejects the ancient image of the union of opposites, in favour of a categorical formulation of the principle of identity.

Cornford does not venture to explain the conditions that made this twofold revolution possible in sixth-century Greece. However, in the course of the half-century that elapsed between the publication of his two works, other authors studied the problem. In his 'Essai sur la formation de la pensée grecque', in his introduction to the discussion of the positivist philosophy of the Milesians, P.-M. Schuhl emphasized the scale of the social and political transformations that took place before the sixth century. He noted that the introduction of institutions such as money, the calendar, and alphabetical writing must have helped to liberate men's minds, and that navigation and commerce tended to give a new, practical orientation to thought. (28) For his part, B. Farrington saw a connection between the rationalism of the first physicists of Ionia and the technical progress made in the wealthy cities of Asia Minor. (29) He suggested that in replacong the ancient anthropomorphic schemata by a mechanistic and instrumentalist interpretation of the universe, the philosophy of the Ionians reflected the increased importance of technology in the social life of the time. The problem was further examined by G. Thomson who raised a conclusive objection to Farrington's thesis. It is impossible to establish a direct link between rational thought and technological development. In technology Greece invented nothing; introduced no innovations. Greek technology was derived from that of the East which it never truly surpassed. And despite all its technological knowledge the East never extricated itself from myth

to construct a rational philosophy. (30) Other explanations are therefore called for and Thomson rightly draws attention to two major groups of factors: first there is the absence, in Greece, of monarchies of the oriental type, which had, very early on, been replaced by other political forms; and second, we have, with the introduction of currency, the beginnings of a commercial economy, and the appearance of a merchant class for whom objects lose their qualitative differences (or utility value) and retain only the abstract significance of a commodity like any other (an exchange value). However, in order to track down more precisely the concrete conditions in which the change from religious to rational thought became possible, we must approach the problem from yet another angle. Ionian physics has thrown some light on the content of the earliest philosophy. We have discovered that cosmogonical myths were transformed in philosophy and that it proposed a 'theory' concerning phenomena that, in ancient times, the king was held to control and effect. The other current of rational thought, the philosophy of Magna Graecia, will enable us to trace the origins of the figure of the philosopher himself and his antecedents.

II

At the dawn of the intellectual history of Greece can be glimpsed a whole series of strange figures to whom E. Rohde has drawn attention. (31) These half-legendary figures who belong to the category of ecstatic visionaries and purificatory magis represent the most ancient model of the 'sage'. Some of them are closely associated with the legend of Pythagoras, the founder of the first philosophical sect. Their way of life, their studies, and their spiritual superiority situate them on the periphery of the ordinary run of human beings. They are, in the strictest sense, 'divine men'; they do, indeed, sometimes proclaim themselves to be gods.

W.R. Halliday saw an archaic form of enthusiastic prophecy in the existence of a category of public diviners or *demiourgoi* who combined certain characteristics of the inspired prophet, the poet, the musician - as both singer and dancer, and the doctor as both purifier and healer. (32) Through this type of diviner, who was very different from the priest and often stood in opposition to the king, we gain a first glimmer of understanding about the line of figures that includes Aristeas, Abaris, Hermotimus, Epimenides, and Pherecydes. All of these do indeed combine the associated functions of diviner, poet, and

sage, all of which depend on the same mantic power. (33) The diviner, the poet, and the sage all have in common the exceptional faculty of seeing beyond sensible appearances. They possess a kind of sixth sense which allows them to enter a world normally prohibited to mortals.

The diviner is a man who can see the invisible. He knows, by direct contact, of things and events from which he is separated by space and time. There is a quasi-ritualistic expression to define him: the man who knows all things past, present, and to come. (34) It is a definition that is also applied to the inspired poet with the nuance of difference that the poet tends to specialize in particular in exploring the matters of the past. (35) In the case of serious poetry, whose purpose is instruction rather than entertainment, the things of the past that divine inspiration reveals to the singer consist not, as they did in Homer, of an exact catalogue of human persons and happenings, but rather, as in Hesiod, of an authoritative account of 'origins', that is, divine genealogies, the genesis of the cosmos, the birth of the human race. (36) In divulging what lies hidden in the depths of time, the poet offers, in the form of the hymn, incantation, or oracle, the revelation of an essential truth which is at the same time a religious mystery and a doctrine of wisdom. It would be most surprising if a similar ambiguity was not also to be found in the teaching of the earliest philosophers. They too are concerned with a reality concealed behind appearances, and eluding common knowledge. The form of the poem in which even a doctrine as abstract as that of Parmenides is still presented reflects how much of the character of a religious revelation was retained in early philosophy. (37) Like the diviner and the poet, and still to some extent confused with them, the sage was originally defined as the exceptional being who has the power to see and reveal the invisible. When the philosopher seeks to describe his own work, the nature of his spiritual activity, and the object of his inquiries, he employs the religious vocabulary of the sects and brotherhoods. He presents himself as one who is elect, a θεῖος ἀνήρ who enjoys divine grace. He undertakes a mystic journey into the beyond, following a path of inquiry which is reminiscent of the way of the mysteries and at the end of which he obtains, through a kind of *époptie*, a vision such as that of the last stage of initiation. (38) He leaves the crowd of 'senseless fools' and enters into the tiny circle of initiates: those who have seen, οἱ εἰδότες, who know, σοφοί. The various degrees of initiation in the mystery religions correspond, in the Pythagorean brotherhood, to the

hierarchy of members who are classified according to their stage of advancement, (39) and they also correspond to Heraclitus's idea of the hierarchy of the three different types of human being: those who understand the *logos* (who have had the ἐποπτεία), those who are hearing it for the first time, without yet understanding it (the μύησις of the new initiates), and those who have not yet heard it at all (the ἀμύητοι). (40)

The prophetic vision of the inspired poet is placed under the sign of the goddess Mnemosyne, Memory, the mother of the Muses. Memory does not confer the power of evoking personal recollections, of seeing the order of events that have faded into the past. She gives the poet - like the diviner - the privilege of beholding unchangeable and permanent reality; she brings him into contact with the primeval being, a mere infinitesimal fraction of which is revealed to human beings in the march of time, and then only to be immediately veiled once again. This function of revealing reality, attributed to a memory, which, unlike ours, does not fly back over, but escapes from, time, reappears in a modified form in philosophical *anamnesis*. (41) Platonic reminiscence makes it possible to recognize the eternal realities that the soul was able to contemplate in a journey made while it was liberated from the body. In Plato we can see quite clearly the link between a particular concept of memory and a new doctrine of immortality which breaks away from the usual Greek conception of the soul from Homer down to the Ionian thinkers.

To understand this innovation which gives the whole mystic current of Greek philosophy its originality, is it enough to refer, like Rohde, to the influence of the Dionysiac movement and the experience of the soul being separated from the body and being united with the divine that the Dionysiac ecstasies were held to produce? (42) The Dionysiac ecstasy, which is a collective hysteria, the god suddenly seizing possession of the man, is an impersonal state passively undergone. The concept of the individual soul, possessing in itself and through itself the innate power of liberating itself from the body and travelling in the beyond, is of quite a different order. (43) Such a belief could not have taken root in the Dionysiac cult. Its origins lie in the practices of those ἰατρομάντεις, who were the precursors of the philosophers and the legends about whom suggest a comparison with the figure and conduct of the shaman of the civilizations of northern Asia. (44) The sages are individuals on the periphery of the social group, distinguished by their ascetic discipline of life, which might include

retreats in the desert or in caves, vegetarianism, total or partial starvation diet, sexual abstinence, a rule of silence, and so on. Their souls possess the extraordinary power of leaving the body and re-entering it at will after a descent into the underworld, a journey through the ether or a voyage through space which enables them to appear a thousand miles from where they lie unconscious in a kind of cataleptic sleep. Certain details underline the features of shamanism that the sages show, namely, the golden arrow that Abaris carries everywhere with him, the theme of flight through the air, the abstinence from food. In this very special religious context a theory of metensomatosis is formulated, explicitly connected with the teaching of the earliest sages. This doctrine is a continuation of the archaic idea that life is renewed in death with which it forms a cycle. But in these circles of the magi the old idea of some kind of movement to and fro between the dead and the living acquires a far more precise meaning. The mastery over the soul that makes it possible for the sage, after a period of strict asceticism, to journey in the other world, confers upon him a new type of individual immortality. What makes him a god among men is that, thanks to a discipline of spiritual tension and concentration (whose connections with a technique of respiratory control have been pointed out by L. Gernet), he knows how to concentrate in itself the soul that is normally dispersed through all the various points in the body. (45) When it is thus concentrated the soul can detach itself from the body, escape from the limitations of a life in which it is temporarily imprisoned, and find again the memory of the whole cycle of its previous incarnations. It is easier to understand the role of the 'memory exercises' that Pythagoras had introduced as a rule to be followed in his brotherhood when one recalls the remark Empedocles made about him: 'This man who, through the tension of the forces of his mind, could easily see every single thing in ten, in twenty human lives.' (46) The combination of the three ideas of mastery over the soul, its escape from the body, and the destruction of the flow of time through the recollection of previous lives is characteristic of what has been termed Greek shamanism and it can still be clearly detected in ancient Pythagoreanism.

Nevertheless, the earliest philosopher was no longer a shaman. His role was to teach, to establish a school. What had been secrets for the shaman were divulged by the philosopher to a group of disciples. He extended what used to be the privilege of one exceptional individual to

all those who desired to enter his brotherhood. It hardly seems necessary to point out what the consequences of this innovation were. Once the secret practices were divulged, thrown open to a wider audience, they became subjects for instruction and discussion. They were organized into a doctrine. The personal experience of the shaman who believes he is the reincarnation of a man of god is now made general to all mankind, in the form of a theory of reincarnation.

The turning point that came when the philosopher emerged as distinct from the magus is, then, characterized by this divulging of a religious secret, this extension of a reserved privilege to an open group, and the publicizing of a hitherto forbidden knowledge. We can discern a similar historical turning point in many other contexts, during the period of social upheaval and religious ferment that paved the way for the appearance of the city between the eighth and seventh centuries. During this time we see the extension and popularization of religious prerogatives which had previously belonged to certain royal and noble *génè*, and which are now, in some cases, fully integrated as state institutions. The ancient priestly clans now place all their sacred knowledge and their control of things divine at the service of the entire city. The holy idols, the old ξόανα, which had been talismans jealously guarded in the royal palace or the priest's house, are now moved to the temple, a public place, and, in full sight of the city, they become images made to be seen. Legal decisions, the θέμιστες, that used to be the privilege of the eupatridai are now written down and made public. At the same time as private cults were thus diverted towards a public religion, new forms of religious groupings, centred around certain powerful personalities, emerged on the periphery of the official city religion. *Thiasoi*, brotherhoods, and mysteries offered access to holy truths which had formerly been the prerogative of certain hereditary houses, without distinction as to rank or origin. The creation of religious sects, such as those that passed as orphic, the founding of mystery religions, and the establishment of brotherhoods of 'sages', such as that of Pythagoras, are all manifestations, in different conditions and circles, of the same great social movement of the expansion and popularization of what had been an aristocratic sacred tradition.

The development of philosophy takes place within this movement and at its end, for it alone carries the movement to its ultimate conclusion. Despite their expansion, the sects and mysteries remained closed and secret groups. This was, in fact, their essential feature.

So, despite certain doctrinal theories that they share with early philosophy, the revelations in the mysteries remained necessarily privileged, and could not be discussed. In contrast, as philosophy developed, it burst out of the framework of the brotherhood in which it had originated. Its message was no longer addressed to a single group or sect. Through the spoken and written word the philosopher addressed the whole city, and every city. He gave his revelations complete and total publicity. By carrying the 'mystery' into the market place, right into the *agora*, he made it the subject of public and argumentative debate, in which dialectic discussion finally assumed more importance than supernatural enlightenment. (47)

These general remarks can be confirmed by more detailed observarions. G. Thomson (48) has pointed out that the founders of Milesian physics, Thales and Anaximander, belonged to a noble, priestly, clan, the Thelidai, descended from a Theban family of priest-kings, the Kadmeioi, who had come from Phoenicia. Thus the astronomical and cosmological investigations of the earliest philosophers could represent a new form, in the city, of an old sacred tradition from the East, now involving the public expression of ideas.

Heraclitus is an even more interesting example. Everything about his use of language - his contrasting and antithetical style, with its juxtaposition of opposed expressions, its use of puns and its deliberately enigmatic form - is reminiscent of the liturgical language used in the mysteries, particularly at Eleusis. Now, Heraclitus was descended from the founder of Ephesus, Androklos, who led the emigration to Ionia, and whose father was Kodros, king of Athens. Heraclitus would himself have been king had he not renounced the title in favour of his brother. He belonged to the Ephesian royal family that had retained, together with the right to the purple robe and the sceptre, the privileges of the priesthood of Demeter Eleusinia. However, even if the *logos* that Heraclitus reveals obscurely in his writings carries on from the *legomena* of Eleusis and of the Orphic *hieroi logoi*, it is no longer exclusive. It is, on the contrary, that which is common to all men, the 'universal' upon which they must all rely equally 'as the City does on the law'. (49)

III

There is nothing surprising about the coincidence we have noted in the emergence of the philosopher and that of the citizen. Indeed, in its social institutions the city

establishes the separation between nature and society that is the conceptual prerequisite for the exercise of rational thought. With the coming of the city, the political order was separated from the organization of the cosmos. It was now seen as a human institution which was the subject of concerned inquiry, and impassioned discussion. In this debate which was not simply theoretical but which engaged all the violent animosity of the hostile groups concerned, the emergent philosophy was bound, by its very nature, to play a part. The 'wisdom' of the philosopher marked him out as qualified to propose remedies for the upheaval caused by the beginnings of a commercial economy. He was expected to describe the new political equilibrium that would make it possible to recover the harmony that had been lost, and to re-establish social unity and stability by 'harmonizing' the opposed elements that were tearing the city apart. In Greece the names of the sages are associated with the earliest forms of legislation and the first attempts to provide a political constitution. Here again we see the philosopher taking over the functions which used to belong to the priest-king in the days when nature and society were not distinguished and he was in charge of both at the same time. However, the transformation of thought is just as marked in the philosophers' political ideas as in their cosmologies. Once they were separated, nature and society both, equally, became subjects for positivist and more abstract reflection. Theories about the social order, now conceived as purely human, could be elaborated rationally, just as could those concerning the natural order now considered as *phusis*. Solon expresses the social order in the concept of fair measure, which must be imposed upon rival factions by the decision of the *nomothète*, who thereby sets a 'limit' to their excessive ambitions. The Pythagoreans express it in the concept of the Ομόνοια, the numerical agreement which brings about the harmony of the contraries, fusing them into a new unity. (50) The old idea of the social order was based on a distribution, an allotment (νομός) of honours and privileges among different groups that were opposed within the political community, just as were the elemental 'powers' within the cosmos. After the sixth century, this idea was transformed into the abstract concept of ἰσονομία, equality before the law for individuals who were all defined in the same way in that they were citizens of the same city. (51)

Just as philosophy develops from myth, and the philosopher from the magus, so too the city develops from the old social organization. It destroys it, but at the same

retains its framework. It translates the tribal organization into a form which is the result of more positivist and more abstract theorizing. Let us consider for example the reforms of Cleisthenes: (52) the four Ionian tribes of Attica, which Aristotle later claimed corresponded to the four seasons of the year, were replaced by an artificial structure that made it possible to resolve purely political problems. Ten tribes were created, each consisting of three *trittyes* composed of several *demes*. The *trittyes* and the *demes* were established on a purely geographical basis. They consisted of the inhabitants of a certain area of land, not of blood relatives as (in principle) in the *génè* and *phratries*. These remained intact but not as part of the tribal organization or of the political institutions of the city. Of the three *trittyes* that composed each tribe, the first was in the coastal region, the second in the interior heartlands, and the third in the urban zone. Being thus a deliberate amalgamation, the tribe brought about the political *unification*, the 'mixture' as Aristotle calls it, (53) of the diverse groups and activities from which the city was composed. This artificial administrative organization had its counterpart in an artificial division of civil time. The religious life continued to be regulated according to the lunar calendar. But the administrative year was divided into ten periods of thirty-six or thirty-seven days each, each one corresponding to one of the ten tribes. The Council of the Four Hundred was increased to five hundred members, fifty from each tribe, so that in the course of the ten periods of the year, each tribe in turn held office in the permanent committee of the council.

The coherence and clear-cut nature of Cleisthenes's reforms exhibit the characteristic features of the new type of thought that found expression in the political structure of the city. They are features comparable with those which, in another context, appeared to us to define the transition of myth into reason, with the emergence of philosophy. The separation of society and nature is presupposed and at the same time strengthened by such developments as the introduction of a civil calendar which fulfils the purely human needs of administration and which is entirely distinct from lunar time, and the abandonment of the correspondence between the number of tribes in the social group and the number of seasons in the cosmos. There is a new positivist spirit behind the reforms which do not aim to establish a harmony between the city and the sacred order of the universe so much as to achieve certain precise political objectives. The tendency towards

greater abstraction is detectable at every level: in the administrative divisions founded on precisely defined territorial sectors instead of on ties of blood; in the arbitrary system of numbers used to allocate social responsibilities fairly to particular groups of men for certain periods of time, on a mathematical basis; in the very definitions of city and citizen, for the city is no longer identified with any one privileged figure or with any activity or family in particular, but rather is whatever form is taken by the unified group consisting of all the citizens without regard to identity, ancestry, or profession. The order of the city is one in which the social relationship, considered in the abstract without regard to personal or family ties, is defined in terms of equality, and similarity.

However, it is not only in the political structures that we can detect mental changes analogous to those which, in the context of philosophy, seem to bring about an imcomprehensible, because historically unprecedented, emergence of a new kind of reasoning. Quite apart from law and art, the development of an economic institution such as money is evidence of changes which are not unrelated to the birth of rational thought. We have only to refer to Gernet's study on the mythical implications of value in the ancient premonetary symbols of Greece. (54) The αγαλμα - a vase, a jewel, a tripod, or a garment - the product of a luxury industry, had the role of an exchange commodity used in a kind of commerce among the nobility. By this means there was a circulation of movable wealth. But in this premonetary system, exchange had not yet emerged as an independent function which could be studied in positivist terms within a system of truly economic thought. The value of the precious object remained bound up with the supernatural virtues it was believed to possess. The αγαλμα was the medium of expression of sacred powers, social prestige, and ties of dependence among men, all belonging to the same system of symbols for wealth. When the αγαλμα circulated in the form of gifts and exchanges, individuals acquired commitments and religious forces were mobilized, as well as ownership changing hands.

Money in the true sense of the word, minted, stamped, and guaranteed by the state, was invented by the Greeks in the seventh century. (55) On a whole series of levels its effect was revolutionary. It accelerated the process of which it was itself an effect, that is to say, the development, in the Greek economy, of a commercial sector dealing in some of the everyday articles that were pro-

duced. It allowed a new type of wealth to be created, radically different from wealth in land or flocks, and also a new class of wealthy men whose effect upon the political reorganization of the city proved decisive. On the psychological and moral level it had a shock effect the dramatic repercussions of which are apparent in the poetry of writers such as Solon or Theognis. (56) If money makes the man, if man is the epitome of an insatiable desire for wealth, the entire traditional image of ἀρετή, human excellence, is called into question. Furthermore money, in the strictest sense of the word, is no longer, as in the East, simply an ingot of precious metal that can be swapped for any kind of merchandise because it has the advantage of being easily preserved and exchanged; money has become a social symbol, the equivalent and universal measure of value. The general use of minted money helps to give rise to a new, positivist, quantifiable, and abstract concept of value.

To appreciate the full extent of this mental innovation we have but to compare two extreme attitudes. First, consider what is originally suggested by a term such as τοκός which denotes the interest from money. It is connected with the root τεκ-, 'to give birth to, to beget', and it thereby assimilates the product from capital to the increase of livestock by natural reproduction according to the seasons and following the order of *phusis*. (57) But in Aristotle's theory, the increase of money through interest and usury is the very epitome of a phenomenon which is contrary to nature: money is a human artifact which, in order to make the process of exchange more convenient, establishes the appearance of a common measure between values which are, in themselves, all quite different. In this new form of money, even more than in the new institutions of the city, there is a rationality which makes it possible to define the domain of νόμος, in the context of purely human productions.

Is one justified in going even further and assuming, with G. Thomson, that there is a direct link between, on the one hand, the most important concepts of philosophy, namely, being, essence, and substance, and, on the other, if not money itself, then at least the abstract character of merchandise that it confers upon all the diverse material commodities exchanged on the market through the process of buying and selling? (58) It seems to us that a theoretical position such as that held by Aristotle should warn us against the temptation of transferring concepts from one level of thought to another, too mechanically. (59)

For Aristotle the essence of a particular thing, be it natural or artificial, is defined by its value in use, the end for which it has been produced. Its commercial value has nothing to do with its reality, οὐσία, but depends quite simply upon a social illusion. (60) Only a sophist like Protagoras could assimilate the reality of things with the conventional value expressed in terms of money that men's judgment ascribed to them. Protagoras's relativism, which can be summed up in an expression such as 'man is the measure of all things,' reflects the idea that money, a pure νόμος, a human convention, is the measure of all values. But it is significant that, for Plato, whose philosophy carries on the line of thought of Pythagoras and Parmenides, the figure of the sophist symbolizes, precisely, the man who remains on the level of nonbeing at the very same time as he is defined as a dealer engaged in commercial transactions. (61)

It is true that the term οὐσία, which means being, substance, in philosophical terminology, also means patrimony or wealth. But, as Gernet has pointed out, this connection serves only to underline the opposite directions taken, on the one hand by philosophical, and on the other by legal and economic thought. (62) The economic meaning of οὐσία is first and foremost the κλῆρος, land, the patrimony which for a long time remained inalienable, and which represented the visible wealth of a family. This type of visible possession, οὐσία φανερά, is contrasted, in a common but somewhat vague distinction, with the category of the οὐσία αφανής, the invisible asset. The latter sometimes includes ready money as well as credits and securities. The two terms of this dichotomy reflect this important difference, that money suffers a devaluation in comparison with land which is a visible possession, stable, permanent, and substantial - the only kind of wealth which is truly real and whose 'price' depends partly upon its religious, affective value. At this level of social thought, being and value are associated with the visible, while that which cannot be seen, the abstract, seems to introduce some purely human and illusory element, if not one of disorder. In contrast, in philosophical thought, the very concept of οὐσία is developed in opposition to the visible world. Reality, permanence, and substantiality become attributes of what cannot be seen; here the visible becomes a mere appearance standing in opposition to true reality, to οὐσία.

There is another term that reflects the attempts at abstraction that were made in the context of commerce and the use of money. Τά χρήματα means at the same time things, reality in general, and goods, especially in the

form of ready money. Aristotle writes: 'We call goods, χρήματα, all things whose value is measured by money.' (63) Here we see an example of the way in which the use of money substituted an abstract, quantitative, and economic concept of the thing as a commercial commodity, in the place of the ancient qualitative and dynamic concept of the thing as *phusis*. But two reservations are necessary at this point. The first concerns a point of chronology: this example of commercial rationalism comes from the fourth century, not from the period of the earliest philosophical thought. It throws light upon the thought of some of the sophists rather than upon that of Pythagoras, Heraclitus, and Parmenides. (64) Second, these χρήματα belong to this earthly world, to use a religious expression that is not out of place in this philosophical context. Οὐσία, which constitutes reality for the philosopher, is of a different order. It is on a different level from nature as also from the abstract notion of money. As we have seen, it is associated with the invisible world revealed by religious thought - with that stable and permanent reality that has more being than *phusis*, rather than less being as currency does.

Does this mean we should suggest that, in the last analysis, philosophy applies a form of rational and positivist thought acquired through the use of money to the concept of imperishable and invisible being that it took over from religion? That would be an oversimplification. In the thought of Parmenides, being is not the reflection of the concept of commercial value; it is not a simple transposition of the abstract notion of money onto the level of reality. Parmenides's being is one; and this unity, which is one of its essential features, sets it in opposition to money, just as it does to reality as perceived through the senses.

In the language of the Ionians, reality is still expressed by a plural, τὰ ὄντα, meaning things that exist, as they are presented to us in their concrete multiplicity. As W. Jaeger remarks, what the physicists are interested in are the natural realities, in their concrete actuality, and what they seek to establish is the basis for these realities. (65) Whatever its origin and principle, being for them takes on the visible form of a plurality of things. In contrast, Parmenides is the first to express being with a singular, τὸ ὄν: it is no longer a question of particular beings, but of being in general, complete and unique. This change of vocabulary registers the emergence of a new concept of being. It is now no longer seen as the divers things apprehended

through human experience, but rather as the intelligible subject of λόγος, that is, of reason, expressed through language in accordance with its own principles of noncontradiction. This abstract notion of a purely intelligible being that excludes plurality, division, and change, is conceived in opposition to sensible reality and its perpetual becoming. But it is also set in contrast to a reality such as money, which not only involves multiplicity in the same way as the natural things do, but furthermore implies the principle of the possibility of indefinite multiplication. Parmenides's being can no more be 'turned into money' than it is subject to becoming.

This means that the philosophical concept of being cannot have originated in the use of money or in commercial activity. It expresses the same aspiration towards unity, the same quest for a principle of stability and permanence, that is manifested in the social and political thought, at the time of birth of the city, and that is also found in certain currents of religious thought, such as Orphism. But this aspiration toward the one and the identical is now expressed in the context of fresh problems, of a strictly philosophical nature, problems that arise when the old question 'how did order emerge out of chaos?' is transformed into problems of a new type, such as 'what is there that is immutable in nature?', 'what is the principle of reality?' and 'how can we seize upon it and express it?' Now the set of mythical notions that the Ionian 'physicists' had inherited from religion - genesis, love, hate, and the union and strife between opposites - no longer answered the needs of an inquiry aimed at giving a purely secular definition to that which constitutes the permanent basis of being. Parmenides's doctrine marks the moment when a contradiction is declared between, on the one hand, the becoming of the sensible world - that Ionian world of *phusis* and *genesis* - and, on the other, the logical requirements of thought. Mathematical thinking played a decisive role in this respect. It acquired the value of a model by reason of its method of demonstration and the ideal character of its objects. In striving to apply number to extension it came up against the problem of the relationship between the one and the many, the identical and the different, within its own sphere, and it formulated this problem rigorously in logical terms. It led to the rejection of movement and plurality as irrational, and to the clear formulation of the theoretical difficulties concerning assertion and attribution. In this way philosophical thought found it possible to disengage itself from the spontaneous forms of language in which it had been

expressing itself, and to subject them to a preliminary critical analysis. According to Parmenides, beyond words, ἔπεα, as employed by men in general, there is a λόγος, a reason which is immanent in speech; this consists in an absolute insistence on non-contradiction: being is, nonbeing is not. (66) In this categorical form the new principle underlying rational thought finalizes the break with the old logic of myth. But at the same time thought finds itself quite cut off from physical reality, for reason can have as its object nothing but immutable and identical being. After Parmenides the task of Greek philosophy was to re-establish the link between the rational universe of speech and the sensible world of nature by means of a more accurate and more sophisticated definition of the principle of contradiction. (67)

We have indicated the two features that characterize the new type of thought that developed in Greek philosophy. First, there is the rejection of the supernatural and 'marvellous' in the explanations of phenomena; second, there is the break with the ambivalent character of earlier logic, and the quest for an internal coherence in speech, based on a rigorous definition of concepts, the establishment of clear distinctions among the various levels of reality, and a strict observance of the principle of identity. These innovations which constituted a first form of rationality are not the result of a miracle. There was no immaculate conception where reason was concerned. The emergence of philosophy was, as Cornford has shown, a historical fact with its roots in the past, growing out of the past as well as away from it. This mental change appears as an integral part of transformations which between the seventh and the sixth centuries occurred at every level in the Greek societies - in the political institutions of the city, in law, in economic life, in money. This is not to suggest that philosophy was simply the reflection of these other developments. While it may be an expression of general aspirations, philosophy raises problems which concern it alone, such as the nature of being, the relation between being and thought. To resolve these problems it has to develop its own concepts, and construct its own rationality. In doing this it relied very little upon sensible reality; it did not borrow much from the observation of natural phenomena; nor did it carry out experiments. The very idea of experimentation remained quite foreign to it. Its reason is not yet the same as our reason, the experimental reason of contemporary science, directed toward facts and toward

their theoretical systematization. True, it established a mathematics, the first formalization of sensible experience, but the point is that it made no attempt to use this to explore physical reality. Between mathematics and physics, or between calculus and experience, there was no connection. Mathematics remained a part of logic. (68) In Greek thought, nature represents the domain of the 'more-or-less' to which neither exact measurement nor rigorous reason can be applied. (69) Reason is not to be discovered in nature, it is immanent in language. It did not originate in techniques for operating upon things. It was developed from the organization and analysis of the various means of influencing men, of all the techniques for which language is the common instrument, namely, the arts of the lawyer, the professor, the orator, and the politician. (70) Greek reason is the type of reason that makes it possible to act in a positive, deliberate, and methodical manner upon men, but not to transform nature. In its limitations, as well as in the innovations it brought about, it appears truly as the product of the city.

NOTES

1 'Annales. E.S.C.' (1957), 183-206.
2 J. Burnet, 'Early Greek Philosophy' (2nd edn, London, 1920), v.
3 This interpretation is still to be found in Bruno Snell although his point of view is historical. Cf. 'Die Entdeckung des Geiestes. Studien zur Entstehung des europäischen Denkens bei den Griechen' (Hamburg, 1955), translated into English under the title of 'The Discovery of the Mind' (Oxford, 1953).
4 Ibid., 10. As Clemence Ramnoux writes, according to Burnet, Ionian physics saves Europe from the religious spirit of the East; it represents the Marathon of intellectual life (Les interprétations modernes d'Anaximandre, 'Revue de métaphysique et de morale', 3 (1954), 232-52).
5 Homer 'Iliad' 15. 189-94.
6 F.M. Cornford, 'Principium Sapientiae' (Oxford, 1952), 159-224. G. Thomson takes up the same demonstration in 'Studies in Ancient Greek Society' (London, 1955), 2: 140-72.
7 Hesiod 'Theogony' 820-71.
8 As has been noted by W.K.G. Guthrie, who revised and published Cornford's manuscript, the hypothesis of a link between the cosmological myths in Hesiod's 'Theo-

gony' and a complex of Babylonian myths and rituals has received support from the recent publication of a Hittite text, the epic of Kumarbi, which establishes a connection between the Babylonian story and the Greek adaptation ('Principium', 249, note 1). Thomson also stresses the intermediary role which may have been played by a Phoenician version of the myth which is echoed, at a later date, in Philo of Byblos, 'Studies', 141 and 153.

9 At Babylon the rite was celebrated every year during the eleven days which, being added on to the end of a lunar year, made it coincide with the solar year. With this accurate knowledge of the seasons it was possible to foresee and organize the timetable for agricultural work. The moment chosen to intercalate the eleven 'extra' days was that of the spring equinox, before the ploughing. Thomson provides some interesting information on the relation between the function of the king, the development of agriculture, and the control of time defined by the seasons through the intervention of the solar or lunar calendar, ibid., 105-30.

10 Hesiod 'Theogony' 116 ff.

11 Ibid. 132. Cf. Cornford, 'Principium', 194 ff.; Thomson, 'Studies', 151.

12 The year is composed of four seasons, just as the cosmos is of four regions. The summer corresponds to the hot, the winter to the cold, the spring to the dry, and the autumn to the wet. In the course of the annual cycle, each 'power' predominates for a time, and then, in accordance with the order of time, has to pay the price for its 'unjust aggression' (Anaximander frg. 1), by in its turn relinquishing its place to the opposite principle. The year thus comes periodically back to its starting point, passing through alternating movements of expansion and contraction. In the same way, the human body is composed of four humours (Hipp. 'Nat. Hom.' 7) which dominate in turn according to the seasons. Cf. Cornford, 'Principium', 168 ff.; Thomson, 'Studies', 126.

13 The strife between the opposites, which is represented in Heraclitus by Πόλεμος and in Empedocles by Νεῖκος, is expressed in Anaximander by the injustices, ἀδικία, that they commit in turn toward one another. The attraction and union between the opposites, represented in Hesiod by Ἔρως, and in Empedocles by Φιλία, appear in Anaximander as the interaction of the four principles, once they have been separated out. It is this interaction that gives birth to the first living

creatures when the heat of the sun warms the damp mud of the earth. For Thomson ('Studies', 45, 91, and 126), this type of thought, which could be called a logic of opposition and complementarity, should be connected with the earliest social structure: the complementary organization of the tribe into two opposed clans which are exogamous and which intermarry. Thomson remarks that the tribe is a unity of opposites.

Cornford shows that the cyclical conception also persists among the Milesians. The cosmos, like the year, returns to its starting point, the primeval unity. The unlimited, ἄπειρον, is not only the origin but also the end of the ordered and differentiated world. It is the principle, ἀρχή, the infinite, inexhaustible, eternal source from which all proceeds and to which all returns. The unlimited is a 'cycle' in space and time.

14 Cornford, 'Principium', 187-8.

15 One of the most interesting passages in Thomson's book is where he establishes a connection between the cycle of the *octaeteris* which made the lunar and solar years coincide in Greece and the archaic forms of royalty. We know that every nine years Minos had his royal power renewed by Zeus, just as in Sparta every nine years the ephores study the stars to find confirmation for the power of their kings. It is suggested that the eighth-year festivals of the Daphnephories, at Thebes, and the Septerion, at Delphi, have a direct connection with both the introduction of the calendar (at a much earlier date than is supposed by M.P. Nilsson) and with the institution of kingship.

16 It is still alive in Homer ('Odyssey' 19. 109), but already in the story of Salmoneus, the figure of the magician-king, the creator of time, is used only to illustrate the theme of human hubris and the way it is punished by the gods.

17 And he too sometimes brings them about: Empedocles knows the art of stopping the winds and changing the rain into dry weather. Cf. L. Gernet, Les origines de la philosophie, 'Bulletin de l'enseignement public du Maroc', 183 (1945), 9.

18 Werner Jaeger, 'The Theology of the Early Greek Philosophers' (Oxford, 1947), 20-1; Cornford, 'Principium', 259. The example of Γαῖα that Cornford also uses is not the most apposite. Aristotle remarks that the Milesians do not, in general, give earth a role of first importance in their physics (see 'Metaphysics' A, 8, 989 ff., where Aristotle explains the reasons

for this). Furthermore, Γαῖα, as a divine power, has few human characteristics.

19 Cf. Snell, 'Discovery', 299 ff.

20 The human soul is a part of nature, made of the stuff of the elements. The divine is what underlies nature, the inexhaustible material, the ever moving tapestry upon which, in a ceaseless process, forms are depicted and fade away.

21 Cornford, 'Principium', 180-1.

22 The use of a technical model does not, in itself, constitute a mental transformation. Myth uses technical images just as rational thought does, as is instanced by the place given to the operations of binding, weaving, spinning, modelling, the wheel, the balance, and so forth.... But at this level of thought the technical model is used to characterize a type of activity or the function of an agent: the gods spin destiny and weigh the fates in the same way as women spin wool and housekeepers weigh it. In rational thought the technical image assumes a new function related to structures rather than activities. It explains how a mechanism works rather than defining the operation of an agent; cf. Snell, 'Discovery', 215 ff. The author emphasizes the difference between comparisons with the *technai* as used by Homer, and their use in, for example, a writer such as Empedocles. Empedocles is no longer seeking to describe vital activities but the properties and permanent structure of an object.

23 Cf. Jaeger, 'Theology', 160 ff.

24 P.-M. Schuhl has shown that these two currents correspond to the two opposed tendencies in Greek religion and culture, and that the tension between them stimulates the development of philosophy ('Essai sur la formation de la pensée grecque. Introduction historique à une étude de la philosophie platonicienne' (2nd edn, Paris, 1949)).

25 Snell has traced through ancient Greek lyrical poetry the discovery of the human soul in its truly spiritual aspects, that is, its connection with inner experience, its intensity, and subjectivity. He notes the innovation represented by the idea of the 'depth' of thought. Homer is not familiar with expressions such as βαθυμήτης, βαθύφρων, with deep thoughts. What he says is πολύμητις, πολύφρων, with many-sided thoughts. The idea of intellectual and spiritual things (such as feeling, reflection, and knowledge) having 'depth' is expressed in archaic poetry before it is, for example, in Heraclitus ('Discovery', 36-7).

26 The antithesis between the φανερά, things visible, and the ἄδηλα, things invisible, that is fundamental in Greek religious thought is to be found transposed in philosophy, in science, and in the legal distinction between visible and nonvisible possessions, cf. P.-M. Schuhl, Adèla, 'Homo. études philosophiques, 1, Annales publiées par la Faculté des Lettres de Toulouse' (1953), 86-94; L. Gernet, Choses visibles et choses invisibles, 'Revue philosophique' (1956), 79-87.

27 In religion, myth expresses an essential truth; it is authentic knowledge, a model of reality. In rational thought the reverse is the case. The myth becomes no more than the image of authentic knowledge and its object, genesis, simply an imitation of the model provided by immutable and eternal being. Myth thus comes to be associated with the domain of the probable, of belief, πίστις, as opposed to the certainty of scientific knowledge. Although it is in keeping with mythical schemata, the distinction drawn by philosophy within reality, between model and image, nevertheless has the effect of undermining myth, which is reduced to the level of imagery. Cf. in particular, Plato 'Timeaus' 29 ff.

28 Schuhl, Adèla, 151-75.

29 B. Farrington, 'Greek Science' (London, 1944), 1: 36 ff.

30 Thomson, 'Studies', 171-2.

31 E. Rohde, 'Psyche' (Fribourg, 1894) and (New York, 1966), 299 ff.

32 W.R. Halliday, 'Greek Divination: A Study of Its Methods and Principles' (London, 1913).

33 Cornford, 'Principium', 89 ff.

34 Homer 'Iliad' 1. 70; cf. Cornford, 'Principium', 73 ff.

35 This is the same definition as that used by Hesiod in the 'Theogony' 32: the Muses have inspired him to sing of things that have been and that will be; and ibid. 38: they speak of things that are, that will be, and that have been. Furthermore, divination is, in principle, as much concerned with the past as with the future. A purificatory prophet such as Epimenides was later even to restrict his divinatory talents exclusively to discovering the facts of the past that had remained unknown (Aristotle 'Rhetorica' 3. 17, 1418A 24).

36 Hesiod 'Theogony' 43 ff. Cf. Cornford, 'Principium', 77.

37 Cf. Gernet, Les origines, 2.

38 On the relation between the vocabulary, imagery, and themes of a writer such as Parmenides, and those used in the tradition of the mystic sects, cf. ibid., 2-6; Thomson, 'Studies', 274.

39 Gernet, Les origines, 4. Gernet stresses the religious meaning of the term *beatus* (*eudaimon*), which defines the highest degree of the hierarchy, and points out that it is broken down into *doctus*, *perfectus*, and *sapiens*; cf. also Cornford, 'Principium', 110.

40 Heraclitus frg. 1; cf. Cornford, 'Principium', 113; Thomson, 'Studies', 247.

41 Gernet, Les origines, 7; Cornford, 'Principium', 45-61.and 76 ff.; and above p. 312.

42 Rohde, 'Psyche', 259-60.

43 The difference is strongly stressed by E.R. Dodds, 'The Greeks and the Irrational' (Berkeley and Los Angeles, 1951), 140 ff.

44 The connection is indicated in passing by Rohde, 'Psyche', 283. The thesis concerning Greek shamanism has been developed by K. Meuli, Scythica, 'Hermes' (1935), 121-77. Cf. also Gernet, Les origines, 8; Dodds, 'The Greeks', in the chapter entitled Greek Shamans and Puritanism; Cornford, 'Principium', in the chapter Shamanism. Cornford suggests, with N. Kershaw Chadwick ('Poetry and Prophecy' (Cambridge, 1942), 12), that, for Greece, Thrace, through its contacts with the Germans to the North and the Celts to the West, may have constituted the intermediary linking Greece to the mantic system related to the shamanism of northern Asia. As well as Thrace, Mueli and Dodds also mention Scythia with which Greece was brought into contact through the colonization of the shore of the Black Sea. One may note the northern origins of the magi, Aristeas, Abaris, and Hermotimus and their close relations with the Hypoborean world. True, Epimenides himself was a Cretan. But after his death his corpse was found to be tattooed, and tattooing was, according to Herodotus, a practice current among the Thracian aristocracy (5. 6, 3). Furthermore, it is known that Crete held an important place in Hypoborean legends.

For our part, we would be more inclined to establish a connection with techniques like yoga rather than with shamanism.

45 Cf. Gernet, Les origines, 8. Ernst Bickel has stressed the connection between one archaic concept of the soul and our breath ('Homerischer Seelenglaube' (Berlin, 1925)). Cf. also, on this point, R. Onians,

'The Origins of European Thought about the Body, the Mind, the Soul, the World, Time and Fate' (Cambridge, 1951).

46 Cf. Gernet, Les origines, 8.

47 Gernet writes: 'True, the Pythagoreans have no "mysteries," but the fact is that, for them "philosophy" is truly a mystery' (ibid., 4). Philosophy becomes established as a specific intellectual discipline through discussion and controversy, through the need to reply to objections of an opponent. Even when the philosopher is not actually engaged in polemic, he reflects on the problems posed by his predecessors and contemporaries; his thinking is in relation to theirs. Ethical thought takes a rational form from the moment that Socrates engages in public discussion with all the Athenians, in the *agora*, on the subjects of the nature of courage, justice, piety and so forth.

48 G. Thomson, From Religion to Philosophy, 'Journal of Hellenic Studies' T3 (1953), 77-84. The author returned to this study in 'Studies', 131-7.

49 'To speak with understanding one must hold fast to what is common to all as a city holds fast to its law' (Heraclitus frg. 128, Burnet).

50 Cf. Thomson, 'Studies', 228 ff.

51 Cf. Gernet, 'Recherches sur le développement de la pensée juridique et morale en Grèce' (Paris, 1917) 6 and 26, with reference to R. Hirzel, 'Themis, Dike, und Werwandtes'. E. Laroche has shown ('Histoire de la racine NEM en grec ancien' (1949) that originally *nomos* had a religious and moral meaning that was fairly close to that of cosmos, implying order, arrangement, just distribution. In Athens, after the Pisistratides, it acquired the meaning of political law, replacing *thesmos*, owing to its association with the democratic ideal of *isonomia*. Whether based upon absolute or proportional equality the law (*nomos*) retains an aspect of distribution. Another sense of *nomos*, although weaker than the primary meaning of 'rule', is to be found, for example, in Herodotus, namely 'custom' or 'usage', without any normative overtones. There can be a slide between the sense of 'political law' and 'custom', and this is exploited in philosophical thought, especially by the sophists.

52 Cf. Thomson, 'Studies', 224 ff.

53 Aristotle 'Constitution of Athens' 21. 3.

54 Gernet, La notion mythique de la valeur en Grece, 'Journal de Psychologie' (1948), 415-62.

55 According to Herodotus (1. 94), money was first minted

by the kings of Lydia. Cf. Schuhl, Adèla, 157-8, and Thomson, 'Studies', 194.

56 Gernet, 'Recherches', 21 ff.; Thomson, 'Studies', 195.

57 Cf. L. Gernet, Le temps dans les formes archaiques du droit, 'Journal de Psychologie' (1956), 401. Gernet notes that the payment of interest had to be made at each lunation (cf. Aristophanes 'Clouds' 1659).

58 Thomson, 'Studies', 297, 300, and 315. The author writes on the subject of Parmenides: 'Just as his universe of pure being, stripped of everything qualitative, is a mental reflection of the abstract labour embodied in commodities, so his pure reason, which rejects everything qualitative, is a fetish concept reflecting the money form of value.'

59 On the specific character of various types of work and of intellectual activities, cf. I. Meyerson, Discontinuités et cheminements autonomes dans l'histoire de l'esprit, 'Journal de Psychologie' (1948), 28 ff.; Problèmes d'histoire psychologique des oeuvres, 'Hommage à Lucien Febvre' (Paris, 1954), 1: 207 ff.

60 Marx stressed that value in use remained the dominant perspective throughout classical antiquity. In terms of the Marxist attitude that he shares, Thomson in our opinion is responsible for an anachronism: it is only when free and salaried work itself becomes a commodity that the 'produce of labour universally becomes a commodity' ('Capital' (London and Moscow, 1954), 1: 170, note 1), and that an abstract notion of work is developed ('Critique of Political Economy' (Chicago, 1904), 66-7)).

61 Cf. Gernet, Choses visibles.

62 Ibid., 79-87.

63 'Nichomachaean Ethics' 4. 1119b 26; cf. Gernet, Choses visibles, 82.

64 Heraclitus's famous pronouncement: 'The Whole is transmuted into fire, and fire into all things, just as goods (χρήματα) are exchanged for gold, and gold for goods,' (Plutarch 'On the E at Delphi = FVS' 22B 90 (H. Diels and W. Krantz, 'Die Fragmente der Vorsokratiker' (7th edn, Berlin, 1956), 1: 171)), should not, in our opinion, be interpreted in terms of this sort of commercial rationality; cf. Clemence Ramnoux's remarks in 'Héraclite ou l'homme entre les choses et les mots' (Paris, 1959), 404-5.

65 Jaeger, 'Theology', chapter 2, 197, note 2.

66 Cf. Parmenides ap Diels, 'FSV', 1: 238, 7 ff. and 239, 6 ff.; on the relation between words and the *logos*, in Parmenides, cf. Schuhl, Adèla, 283 and 290, and note 3 to 290.

67 Ibid., 293 ff.

68 Cf. the preface by L. Brunschvig to Arnold Reymond's work, 'Histoire des sciences exactes et naturelles dans l'Antiquité greco-romaine' (2nd edn, Paris, 1955), vi and vii. Plato's theory of the form-numbers illustrates how mathematics was integrated with logic in this way. Developing an idea from J. Stenzel, A. Lautman notes that the form-numbers represent the principles which both give the arithmetical units their place within the system and account for the varying degrees of the progressive division of the forms: 'The schemata of the divisions of the Forms in the "Sophist" are thus organized in the same way as the schemata of the generation of numbers' ('Essai sur les notions de structure et d'existence en mathematiques' (Paris, 1937), 152).

69 Cf. A. Koyré, Du monde de 'l'à-peu-près' à l'univers de la précision, 'Critique' (1948), 806-83.

70 On the transition from rhetoric and sophistry to logic cf. J. de Romilly, 'Histoire et raison chez Thucydide' (Paris, 1956), 181-239. The practice of antithetical speeches or *antilogioi* was to lead, via the establishment of 'commonplaces' of speech, to the analysis of the structures of demonstration, the assessment and measure of opposite arguments, and to a science of pure reasoning.

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